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STUDIES IN HISTORY, ECONOMICS AND PUBLIC LAW

EDITED BY THE FACULTY OF POLITICAL SCIENCE
OF COLUMBIA UNIVERSITY

Number 332

FOREIGN NEWS IN AMERICAN MORNING NEWSPAPERS

A STUDY IN PUBLIC OPINION

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A STUDY IN PUBLIC OPINION

BY

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NEW YORK
COLUMBIA UNIVERSITY PRESS
LONDON: P. S. KING & SON, LTD.
1930

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COLUMBIA UNIVERSITY PRESS

PRINTED IN THE UNITED STATES OF AMERICA

PREFACE

THE present monograph represents an effort to explore on a small scale the possible applications of a statistical and semi-behavioristic approach to the study of the social phenomenon called Public Opinion. The research concerns one particular index of Public Opinion primarily, that derived from a quantitative analysis of the daily press, and the attempt is made to contribute to the solution of certain methodological problems which must be solved before that index can receive a thorough testing in actual practice. Strictly speaking, therefore, the validity of the newspaper content index of Public Opinion is still open to question at the end of what is essentially a methodological study. In the view of the writer, however, the results of the research to be described are such as to at least establish a presumption in favor of this method of Public Opinion study, a presumption that justifies further experimentation along similar lines. Evidences of a recently revived interest in quantitative newspaper study in several quarters seem to guarantee that this additional work in perfecting, standardizing and validating the technique will soon be performed. Meanwhile it is to be hoped that other research will similarly exploit the possibilities in other avenues of approach to the understanding of Public Opinion processes. All the resources of the sociologist will have to be mobilized if this complex phenomenon is to yield to scientific description and analysis.

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In the laborious work of measuring the content of the many newspapers employed in the research the writer was aided by Mr. Paul S. Wingert of New York City and his thanks are

due to him for conscientious and painstaking enumeration. The author is grateful also to Professors R. M. Mac Iver, Robert E. Chaddock, and Frank A. Ross for their constructive and helpful criticism of the manuscript. To Professor A. A. Tenney whose pioneering efforts in quantitative newspaper study stimulated the author's interest in the subject and whose friendly counsel has aided enormously at all stages of the work no adequate acknowledgment can be made. The writer can only hope that the research will in some sense be a further justification of Dr. Tenney's continued faith in this particular approach to Public Opinion study and an added verification of his original insight.

JULIAN L. WOODWARD

ITHACA, NEW YORK
MARCH 28, 1930.

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CHAPTER I

The Measurement of Public Opinion

For the sociologist an explanation of the workings of the so-called "Public Mind" is a necessary prerequisite to the development of any adequate theory of social change. Recognizing this, sociologists have frequently essayed an analysis of the processes of Public Opinion [1] but since the results have been almost uniformly based upon individual observation and interpretation a more critical generation of social scientists has called them in question. The demand today is for *verifiable* facts as a basis for generalizations rather than even the most brilliant of individual insights. Further advance in this immensely difficult field appears, therefore, to await the development of techniques for securing objective indices, in quantitative form, of the Public Opinion of any time and place. Only when there is an agreed-upon yardstick for measuring the mind of the public can the results of observation on and experiment with Public Opinion be subject to the verification that goes with cooperative research.

In their interest in measuring the opinions of various publics with respect to various subjects the sociologists are joined by other groups whose need for techniques of opinion

[1] *Cf.* Angell, Norman, *The Public Mind*; Wallas, G., *Human Nature and Politics*; Ginsberg, M., *The Psychology of Society*; Lowell, A. L., *Public Opinion and Popular Government*; Dicey, A. V., *Lectures on the Relation Between Law and Public Opinion in England during the Nineteenth Century*; and especially Lippmann, W., *Public Opinion* (New York, Harcourt Brace, 1922) and Lippmann, W., *The Phantom Public* (New York, Harcourt Brace, 1925).

appraisal are perhaps of a more immediately practical character. Historians of the "new" school are interested in any method enabling them to evaluate the attitudes of, say, the middle-class Roman of the Empire toward the corrupt aristocracy or of the South toward the negro in the very early days of slavery. Politicians and social reformers are faced always with the problem of estimating the opinions of constituencies and of the publics at large toward persons and issues. Advertisers are always interested to learn the effect of their advertising on public attitudes toward their own and toward competing products, and ministers are constantly making religious surveys to estimate the influence of their pastorate and of the rise and fall of general religious interest. All these groups as well as the many others who need to know something of the Public Mind have of course already evolved techniques of a sort to suit their purposes, some of which might well be taken over by the social scientist, but all will benefit by any standardized scales of measurement, "index numbers of public opinion", which may be developed in the future.

In what ways may the problem of securing Public Opinion indices be approached? No exhaustive summary of the various possibilities, most of them as yet unrealized, need be given here since the subject has been adequately treated elsewhere.[1] The brief review of Public Opinion studies which follows is designed, therefore, only to orient the reader and relate the subject matter of this particular monograph to the general field. One may begin by frankly adopting the now widely accepted view of Public Opinion as a mere aggregate of individual opinions rather than as any sort of over-soul or super-entity. In consequence of taking this

[1] See especially the "Report of the Round Table on Political Statistics of the Second National Conference on the Science of Politics" printed in the *Political Science Review*, 19: 124-126.

stand the problem at hand becomes one of devising techniques for ascertaining and summing the opinions of individuals rather than one of direct perception of the mass opinion as a whole. The most obvious methods here are the direct ones of questionnaire and interview, and their use as instruments for the study of public opinions has received much attention in the last few years.

The most familiar form of the public opinion questionnaire is the straw ballot type. The individuals are called upon to assent to or dissent from certain stated propositions; their answers are *opinions* which, since they all relate to the same propositions, can be treated statistically and made a measure of Group or Public Opinion. The question arises, however, as to the validity of inferences concerning the future behavior of this Public when analogous but not exactly similar propositional situations present themselves in real life. Are the opinions registered in the questionnaire true indices of the more fundamental dispositions, beliefs, motor sets, behavior tendencies, usually called *attitudes,* which persist and are more or less effective in a general class of situations? [1] Where prediction of future behavior is the aim, and this is the case in most opinion studies, the replies on the ballot are valuable only as they reveal *attitudes,* and the validity of the opinion questionnaire, like that of the intelligence test, can

[1] In an as yet unpublished paper read before a joint session of the American Statistical Association and the American Sociological Society on December 30, 1929 Stuart A. Rice raised the question as to whether attitudes were facts or simply hypotheses. While he concludes the latter he points out that "The concept of attitude . . . provides us with a methodological postulate upon which to base interesting and useful classifications of human behavior". The attitude is always defined in terms of the behavior and whether "real" or not, it is a useful and time-saving conceptualization. When verbal behavior alone is dealt with we can speak of opinion. See also Read Bain, "An Attitude on Attitude Research," *American Journal of Sociology,* 33: 940-957 for a somewhat more extreme behavioristic view of attitude.

only be determined in terms of the sequent behavior of the individuals concerned. Hence the elaborate efforts that have been and are being made to determine the predictive value of such a test as the quadrennial *Literary Digest* poll.

A recent adaptation of the questionnaire technique is the so-called "attitude test" which has reached its highest technical development at the hands of L. L. Thurstone and his associates.[1] Thurstone's tests are essentially scales or yardsticks of opinion built up very much as are intelligence tests on the basis of the performance of an original standardization group. The individual taking the test is called upon to choose the one of a series of statements most nearly representing his own opinion on, let us say, the usefulness of the Church in modern society. Since the different statements on the list have been carefully selected so as to be "equidistant" from each other in the opinions of the original standardization group the results from applying the test to a group of people can be treated statistically and the average opinions of various publics, presumably representing indices of attitude, can be viewed as comparable. A large number of tests of this general type, although constructed in most cases with less care than those of Thurstone, are now in use.[2]

One other type of "controlled propositional" study of

[1] See Thurstone, L. L. and Chave, E. J., *The Measurement of Attitude* (Univ. of Chicago Press, 1929), and Thurstone, L. L., "Attitudes Can be Measured," *American Journal of Sociology*, 33: 529-554.

[2] Examples are Neumann, G. B., "A Study of International Attitudes of High School Children", *Teachers College, Columbia University, Contributions to Education*, no. 239; Allport, F. H. and Hartman, D. A., "The Measurement and Motivation of Atypical Opinion in a Certain Group", *American Political Science Review*, 19: 735-760; Watson, G. B., "The Measurement of Fair Mindedness", *Teachers College, Columbia University, Contributions to Education*, no. 176 (1925); Allport, G., "The Composition of Political Attitudes", *American Journal of Sociology*, 35: 220-238.

attitudes, to use the classification term of S. A. Rice,[1] should receive brief mention; this is research by use of the interview. Every one knows that the politician is at the center of a web of contacts with political henchmen who in turn more or less systematically interview voters. This practical adaptation of the formal interview technique produces results which, while not stated in scientific terms, are nevertheless frequently of surprising accuracy. With more of the customary scientific safeguards and with adequate statistical technique the interview method is now in use by commercial firms[2] who are engaged in measuring the attitudes of the public toward certain phases of service offered by client business concerns. The interview method coupled with statistical summation of the resulting opinion data has also been employed in social surveys.[3]

When one turns to the realm of uncontrolled data where the behavior indicative of attitudes is not evoked by stimuli emanating from the experimenter the most obvious attitude index susceptible of statistical treatment and the one which comes first to mind is the election vote. This use of election returns in measuring attitudes had been discussed by Stuart A. Rice in his *Quantitative Methods in Politics*.[4] The chief advantages in the use of such data are of course their relatively objective character and the rather large percentage of the population whose political attitudes can be thus measured. Other possible indices of political attitudes yet to be ex-

[1] *Op. cit.*

[2] Notably David Houser & Associates of New York City.

[3] *Cf.* Lynd, R. S. & H. M., *Middletown* (New York, Harcourt Brace, 1929).

[4] New York, Knopf, 1929. See especially pages 53, 92-94. See also Meier, N. C., "Motives in Voting", *Am. Journal of Sociology*, 31: 199-212; and Ogburn, W. F. and Talbot, N. S., "A Measurement of the Factors in the Presidential Election of 1928," *Social Forces*, 8: 175-183.

ploited systematically are political campaign appeals, subscriptions to party and individual campagn funds, attendance on rallies and meetings, letters and telegrams of commendation and protest sent to politicians or to newspapers, and memberships in avowedly propagandist organizations such as the Anti-Saloon League or the League of Nations Association. Attitudes toward other than political questions, as for instance marriage and the family, are indicated by the available marriage and divorce statistics, by the statistics of contraceptive production and sale, the results of vice surveys, the geographical, occupational and sex distribution of the circulation of the "wood-pulp" *True Confession* and *Breezy Stories* type of magazines, etc. It is to be emphasized that these indices of attitude whenever used apply ordinarily to certain carefully defined groups only and that even for these groups the index in question must first be validated by checks made with other indices on a common representative sample taken from the public to be surveyed.

We come finally to a consideration of a form of attitude study of the non-controlled type in which the content of what may be called the Public Opinion organs, the magazine, the newspaper, the radio broadcast, the moving-picture news reel, the public lecture and to some extent the sermon is used as an index of the Public Mind. Attitude studies of these media have several distinct advantages. They deal with single indices for large numbers of people; they measure attention as well as the attitude set itself; and they are adaptable for research where time is a variable. Their chief disadvantage is of course the difficulty of determining the exact relation between the contents of the radio program, newspaper, etc., and the attitudes of the listeners and subscribers. The newspaper is of all the organs of Public Opinion probably still the most influential in relation to attitudes of individual citizens toward problems of community welfare

and government. This question of relation between content and attitude may be therefore best discussed with reference to it rather than to the magazine or the news reel. Is, then, a study of newspaper content valuable as an index of public attitudes?

NEWSPAPER CONTENT AS AN INDEX OF THE PUBLIC MIND

The influence of the newspaper upon the attitudes of its subscribers is usually considered to be two-fold; it provides data in the form of news which serves either as a basis for rationalizing old attitudes or for forming new ones, and in the editorial column it employs direct suggestion to shape attitudes of its subscribers. While the influence of the editorial proper is no doubt a declining one [1] students and critics of the press have not been lacking to point out the propagand- its character of many of the so-called news stories.[2] Just exactly in what ways and to what extent, therefore, the newspaper influences individual attitudues is very difficult to determine. The best analysis of the relationship between press and public has been provided by Walter Lippmann [3] but it is

[1] In a study made in 1921 of "the newspaper reading habits" of 599 business executives and professional men in New York City by Professor G. B. Hotchkiss and R. B. Franken (published by the Assn. of National Advertisers, Inc.) the subjects were asked to state in order the "five features of the newspaper which interest you most". The replies were scored on the basis of five points for first choice, four for second and so on and on this basis "Editorials" received but 11.53% of the total number of possible choices as against 19.30% for "General News" and approximately 85% for all types of news stories together.

[2] Silas Bent (*Ballyhoo*, Boni & Liveright, 1927, p. 123) estimates that more than half of the news stories in the average metropolitan newspaper originate from interested sources and are thinly disguised propaganda. See also Lippmann, W., *Public Opinion, op. cit.*, p. 344, and Wilcox, D. F., "The American Newspaper", *Annals of the American Academy of Political and Social Science*, 16: 87.

[3] *Op. cit.*, chapters 21-24.

an individual interpretation stated in qualitative terms, whereas detailed quantitative studies correlating changes in attitudes which specific newspaper stimuli are necessary as a basis for reliable generalization.[1] Most sociologists are agreed, however, that the press does produce changes in opinion but rather through distortions, omissions, condensations, and colorations of facts in the news columns than by direct editorial exhortation.[2] Individual "stereotypes"[3] of the world and events in it are shaped by or derived from the news columns of the daily paper and judgments on the basis of these stereotypes are large determiners in attitude.

But the modern newspaper is much more of a reflector than a molder of Public Opinion; it is becoming less and less the organ of a party interested in converting the readers to a set of editorial convictions and is more and more but an interesting and only incidentally informative envelope for ad-

[1] Lundberg, George A., "The Newspaper and Public Opinion", *Social Forces*, 4:709-715, is one attempt in this direction. Lundberg tests the correspondence between the opinions of 940 Seattle citizens and the expressed attitudes of their favorite newspapers on four specific issues of politics. No correspondence whatever is found to exist in this case but it seems doubtful if Lundberg's conclusion that "As far as this study is concerned . . . a modern commercial newspaper has little direct influence on the opinions of its readers on public questions" is entirely justified. For it may be urged that the average reader selects his newspaper not on the basis of the policy expressed on the editorial page but rather, as the results both of a questionnaire included in Lundberg's study and of the study of Hotchkiss and Franken (*op. cit.*) both show, on the basis of general news content. The influence of the very probable bias in the news columns is perhaps real but too subtle to act as a very large factor in the reader's choice of a newspaper.

[2] *Cf.* Lippmann, *Public Opinion*, p. 355; Wilcox, D. F., *op. cit.*, pp. 56-57; Meier, N. C., *op. cit.*, p. 204; Baker-Crothers, H. and Hudnut, W., *Problems of Citizenship* (Holt, 1924), pp. 22-23; Groves, E. R., *Social Problems and Education* (Longmans, Green & Co., 1925), p. 377 *et seq.*; and Graves, W. B., in his *Readings in Public Opinion* (Appleton), pp. 297-298.

[3] This is Lippmann's term.

vertising. The newspaper sells circulation to advertisers who in turn pay the large share of the cost of publication. In order to secure the widest possible circle of readers, therefore, the press must give this public what it wants; it must reflect the interests and attitudes of subscribers both in its editorial and news columns, for failure to do so means an immediate loss of circulation and a decline in profits. While newspaper content represents of course only the editor's guess as to what the public wants to read, the guesses can be to a considerable extent checked up by circulation figures. The inflated publicity for aviator's flights, for instance, has been continued because of a perfectly apparent effect stories of that type have upon circulation, and the great increase in the amount of space devoted to sporting events has arisen from similar considerations.[1]

On the basis of a descriptive analysis of the type just given it would appear that there is constant interaction between press and public. The former to some extent shapes the attitudes of the latter, especially those related to public affairs, and at the same time press content reflects those attitudes. The two variables, Public Opinion (the aggregate of the attitudes of individual members of the Public) and newspaper content are therefore in all probability correlated and one can at least take as an hypothesis the view that the content of newspapers is a valid index of at least some phases of the Public Mind.

This is so far as one can go without the introduction of some more exact technique for ascertaining the actual degree of this postulated relationship. Numerical scales for measuring attitude and newspaper content must be constructed before any accurate means of testing the association between the variables may be applied. Since the basis for attributing attitude in any case is usually some objective behavior index

[1] Bent, S., *Ballyhoo*, pp. 37-38.

(verbal or non-verbal) the problem resolves itself into the comparison of the results obtained from newspaper study with those from other attitude indices which may or may not be more reliable than the one based on press content. Just as in the case of the intelligence test mutual consistency in results derived from various measures is the only available criterion of the reliability of any one of them.

In recapitulation two steps may be suggested as necessary in the validation of any objective index of Public Opinion (or better, " Public Attitude "). These are (1) the development of a linear scale for quantitative statement of the value of the index in any given case and (2) the calculating of coefficients of correlation between the results obtained from this and from other attitudes scales when all are applied to the same problem situation. The present study is concerned with the attitude index afforded by newspaper content, but is confined to the first of the two steps in procedure just listed. What follows in succeeding chapters is presumed to bear simply upon the problem of constructing a satisfactory newspaper-content scale. The validation of such a scale is reserved for later research.

CHAPTER II

Quantitative Method in Measuring Newspaper Content

A trained observer can make a reasonably accurate analysis of the average content of a given newspaper in qualitative terms without any more elaborate procedure than mere inspection of a few copies. To apply quantitative methods to the problem is much more difficult procedure and one justified only when it is desired to measure changes over a period of time, when comparisons are to be made between newspapers analyzed by different observers, or, as has been assumed in the present study, when newspaper content is to be taken as a measure of public attitudes.

In the quantitative approach through the construction of a linear news-content scale three major points of methodology are involved. There is in the first place the necessity of defining the scale units, in the second, the problem of setting up and standardizing a set of classification categories, and finally some technique must be developed for ascertaining the reliability of the results obtained when the scale is applied to sampled data. These points may now be discussed briefly in order.

(1) If quantitative method is applied to newspapers it is evident that the unit of investigation must be the news-story or *item* or else some linear measure of space.[1] In this reasoning the assumption is implicit that some simple function of the space devoted to or the items about a given subject represents a fair index of the relative emphasis devoted to that

[1] Various systems of weighting of either space or items may of course also be employed. *Cf. infra*, p. 53 *et seq.*

subject by the newspaper. A second assumption is of course that the space or item unit chosen can be so defined as to make the content totals for one newspaper truly comparable with those for another. Both these assumptions are by themselves very difficult to prove and their ultimate justification will come only with the validation of the scale as a whole as a useful test for attitudes. The more concrete and detailed discussion of the space and the item unit which follows later may however make these two assumptions appear inherently more (or less) reasonable.

(2) The set of categories used for classifying the contents of the newspapers will be determined in the first place by the phases of opinion under examination. Any categories used by more than one observer, must, however, be proven *stable,* that is to say it must be demonstrated that different investigators classifying the same material will get the same or nearly the same results. Where the classification is merely dichotomous the procedure for effecting this standardization may not be inherently difficult although it is likely to prove expensive. But when the classification is manifold, and this would be frequently the case in quantitative newspaper studies, the methodological difficulties in the way of any accurate determination of degrees of stability exhibited by the various categories become much greater. Any wide use of the method of quantitative analysis of newspapers will, however, depend upon a solution of this problem.

Two other points in connection with the classification of news articles need also be noted. The first of these is that if the study is designed to be one of attitudes as indicated by newspaper content and not simply of content itself the news categories must be so defined as to be translatable into the terms of other attitude indices. The category "news favorable toward the League of Nations" must be administered so as to have at least approximately the same *meaning*

as for instance pro-league attitudes as measured by membership in various associations. Only when this condition is met can the validity of the index be demonstrated.

The second point above referred to has to do with the choice of a unit of classification.[1] As a practical matter classification cannot be based on any smaller unit than the story or item even when the item deals with what appears to be more than one subject. Even if this is the case, however, the different topics are ordinarily so intertwined in the complete news stories as to make separation, as by paragraphs, sentences, lines, etc., impossible.

(3) The third major methodological problem to be faced in the construction of a newspaper content scale is that of determining the magnitude of errors of observation and, still more important, the errors involved in estimation from a random sample. The cost of classifying, measuring and enumerating the contents of the large newspapers of today makes some sampling procedure almost obligatory for all studies not of severely limited scope, but inferences drawn from enumerations made on the sample are reliable for the universe as a whole only within definite limits. The development of a technique for ascertaining those limits is a prerequisite for scientific use of the newspaper content index.

With this introductory discussion of the more important conditions which must be met by the scientifically acceptable news-content scale we can now turn to a brief history of the various attempts to apply the method of quantitative analysis to the newspapers.[2] In this survey emphasis will be placed on

[1] It is to be noted that the unit of classification is something separate and distinct from the unit of measurement. Classification in this study is on the basis of the item, but items are measured in terms of column centimeters.

[2] For what is in some respects a more complete discussion of some of these studies in quantitative press analysis see Willey, M. M., *The Country Newspaper* (University of No. Carolina Press, 1926), pp. 24-32.

the details of the methodology employed rather than upon the results obtained both because methodological defects have made the latter in most cases fairly unreliable and because the present study can be understood only in the light of knowledge of the current stage of development in technique.

NEWSPAPER STUDIES EMPLOYING THE METHOD OF QUANTITATIVE ANALYSIS

We can consider first a miscellaneous group of studies of a journalistic rather than a scientific character. In each case some form of quantitative analysis was employed but with little regard for the canons of statistical method and consequently little guarantee of precision in the results. The studies are completely unrelated and as far as can be determined none of the authors was interested in the methodological aspects or made any attempt to acquaint himself with previous attempts to apply quantitative methods to a study of the press.

In 1893 J. G. Speed [1] published the results of a study designed to ascertain changes in the relative quantities of certain types of news printed by New York newspapers, especially " gossip " and " scandal ", that had occurred during the preceding twelve years. One copy each of the Sunday editions of two New York dailies were analyzed in 1881 and again in 1893 and the content, measured in fractions of a column, was classified into thirteen named but not defined (and probably highly subjective) categories. Conclusions were drawn as to the increase in gossip and scandal in the news columns of the papers during the twelve years and the decrease in " literary ", " scientific " and " religious " matter.

Byron C. Matthews made a somewhat more detailed study of an unnamed " conservative New York daily " the results

[1] Speed, John G., " Do Newspapers Now Give the News? ", *Forum*, 15:705-711.

of which were published in 1910.[1] Consecutive issues were analyzed for a period of three months and after throwing out all editorial and advertising matter the remaining *news* was classified by items into 177 categories. These categories or sub-classes were combined into four groups labelled "demoralizing", "unwholesome", "trivial", and "worthwhile" and the item totals for these groups were given. Illustrations as to the method used in assigning a given item or subclass to one of these four categories serve only to show the arbitrary nature of the procedure.

A third study of somewhat greater importance was made by Bristow Adams, Professor of Journalism at Cornell University, in 1922.[2] Three New York City newspapers and nine smaller upstate New York dailies were measured with a rule scaled in inches and the content, including editorials, cartoons, and comic strips as well as news stories was classified into thirteen categories. The sample included twelve issues of each paper taken on alternate days (Sunday excepted) during the months of January and June. While the report of Professor Adams' paper printed in the professional journal *Editor and Publisher* laid emphasis on the small percentage of crime news (averaging 4 per cent) found in these newspapers a more important aim of the study was to compare the papers' policies with respect to local and especially to agricultural news. The work is interesting chiefly as representing an effort of a professional journalist to apply the quantitative technique in the interests of greater insight by newspaper men themselves into the conditions existing in their craft.

The last of this group of studies is the work of Roger W.

[1] Matthews, Byron C., "A Study of A New York Daily", *Independent*, 68: 82-86.

[2] *Cf. Editor and Publisher* for July 1, 1922.

Riis.[1] He measured the various news items in five issues each of 18 well-known American newspapers to the nearest inch and lumped the results for all in one table of 19 categories. Five different English papers, five from France, and five from Germany were similarly treated, the unit in each case being the column inch of the newspaper in question. Some of the results obtained will be discussed later; here one need only point out that in this study as in the preceding three no recognition is given of the need of testing the stability of the categories and the adequacy of the sample. The unit of measurement, whether it be the item, the column inch or the fraction of a column, is also used naively. The work is that of laymen in the field of scientific analysis.

A second group of studies represent the efforts of scientifically trained individuals to employ the method of quantitative analysis in the solution of problems of immediate interest without going through the systematic preliminary work necessary to make their methodology really valid. The first and historically the most important of the studies falling in this class is that by Delos F. Wilcox, appearing in the *Annals of the American Academy of Political and Social Science* for 1900.[2] The quantitative phase of this extensive study consists in the analysis of one issue each of 147 American metropolitan dailies, the content being divided into Illustrations, Literature, Opinion, Advertisements, and News, with this latter category subdivided further into 18 classes. Some effort to define these news sub-categories is made but no attempt to test their stability is indicated.[3] The unit of meas-

[1] Riis, Roger W., "Are Newspapers Doing their Duty?", *Independent*, 112: 117-118.

[2] Wilcox, D. F., "The American Newspaper; A Study in Social Psychology," *Annals of the Am. Acad. of Pol. & Social Science*, 16:56-92.

[3] The question is of course whether two or more individuals will interpret even the stated definitions in the same way.

urement is one twentieth of a column but the author speaks only of "estimating" to that accuracy. Whether variation in the length of the column in different newspapers was taken account of it is impossible to say.

In summarizing the results of his analysis Wilcox lumped the results from all the newspapers in a city together in the totals. The percentages of the total space devoted to items of each of the above named classes and sub-classes were made available for each city and for the country as a whole.[1] In addition an interesting index of "yellowness" was developed by selecting certain news categories such as "crime" and "vice", and such other categories as "illustrations" and "want ads" to be indicators of yellow journalism and the different cities were accordingly rated as having a yellow or a conservative press in terms of this artifically constructed measure.

Frances Fenton [2] was interested in the influence of newspapers upon the commission of crime. In addition to a study of a number of cases where the influence of a particular news-story upon the commission of a crime could be definitely ascertained her study also included an attempt to tabulate the proportion of news which was of a definitely anti-social character. Seven categories were used to classify all of the newspaper content except advertisements and then the material was cross-classified into four groups according to the supposed weight of suggestion toward the commission of a crime it carried. The study is chiefly interesting methodologically because of the serious effort made to define these

[1] In 1924 Paul W. White repeated Wilcox's study using the same total number of newspapers but with a different geographic distribution. His results are set forth in an article in *Editor & Publisher*, vol. 57, no. 1 (May 31, 1924).

[2] Fenton, Frances, *The Influence of Newspaper Presentations Upon the Growth of Crime and other Anti-social Activity* (Univ. of Chicago Ph. D. Thesis, 1911).

latter groups in objective terms. No effort was made, however, to check this objectivity by having more than one person classify the same set of articles.

One of the few studies in which attention was consciously directed toward the methodological problems yet to be solved was that of T. R. Garth, published in 1916.[1] Garth's main interest, like that of his predecessors, was in the use of the method of measuring the space devoted to various topics in newspapers to throw light on public interests, but he was much more careful in outlining his procedure and much more scientifically accurate in stating his conclusions. Garth's students analyzed a somewhat more carefully constructed sample than had been the case in previous studies; the sample consisting all told of 138 issues of various newspapers. The column inch was the unit of measurement and all "solid reading matter" was measured and classified in one of 32 topical categories; then the total in each category for each *issue* was converted into a percentage by dividing it by the total column inches in all categories for this issue. By this means category totals for newspapers of different size and with columns of different width were made comparable. The next step was to compute the arithmetic means of the 138 values (from the 138 issues) of the ratios for each of the categories and the resulting single table of percentages was taken as a measure of relative public interest in the various category topics. An additional refinement of method was supplied by calculating (in a rather mysterious fashion) the probable errors [2] of these category averages and also a set of "coefficients of variability" (aver-

[1] Garth, Thomas R., "A Statistical Study of the Contents of Newspapers," *School and Society*, 3: 140-144.

[2] Presumably on the assumption of normality in the distributions, an assumption specifically denied in a number of instances by the skewness coefficients which Garth himself computed. With $N = 138$ the error in assuming normal distribution was, however, probably not serious in most cases.

age deviation ÷ the true average). The latter figures were supposed to measure the relative fluctuations from issue to issue in the public interest in the various subjects, a low coefficient indicating a relatively constant demand for the given type of news.

While Garth had a number of students working for him, he seems never to have envisaged the danger of a wide variation between individuals in the use of his categories. He did, however, call attention to the lack of general statistical training in his students and to the probability of errors of enumeration if not of classification. All in all the study marked a definite step in advance.

In concluding this portion of the history of quantitative method in press analysis mention must be made of two studies by Carl Taylor reported in 1921 and 1922.[1] They are interesting more because they illustrate possible applications of the method than for contributions made to it. The first study is an analysis of the amount of news, advertising, and editorial space devoted to town and to country news in 243 Missouri country weekly newspapers. An attempt was made to correlate the results with the size of the town in which the paper was published and with the number of rural out-of-town subscribers. The second study analyzes the content of eight agricultural journals to determine their educational influence.

THE COLUMBIA UNIVERSITY GROUP OF NEWSPAPER STUDIES

Perhaps the first attempts directed toward the perfection of the methodology of press analysis rather than toward the securing of easy but unreliable data on current newspapers occurred at Columbia University under the direction of Pro-

[1] "The Country Newspaper as a Town-Country Agency", *Proceedings of the Fourth National Country Life Conference*, 1921, pp. 36-46, and "The Rural Press as an Educational Agency", *Proceedings of the Fifth National Country Life Conference*, 1922, pp. 60-67.

fessor A. A. Tenney. As early as 1911 Tenney had a number of his graduate students working on the problem of setting up a system of stable categories for newspaper analysis and perfecting other phases of the methodology. In his article in the *Independent* published in 1912 [1] Tenney recorded preliminary successes in this work and urged the use of the method on a wider scale for measuring the " social weather " as reflected daily in the columns of the press.

In spite, however, of the emphasis on the great usefulness of this technique there was always a clear recognition in all of the early work at Columbia of the necessity for much more methodological experimentation and validation. In a series of Columbia University Master's Essays prepared under Tenney's direction which have appeared since 1912 attempts have been made to give individual treatment to some of these technological problems. A few sample studies from this group may now be briefly discussed.

The relative merits of the space unit and the item early came up for consideration. Two studies by R. G. Smith and Glenn Johnson [2] attacked the problem with tests aimed to show whether the use of either would give practically the same results. If such proved to be the case the conclusion was to follow that the item-counting method, since it was much the less expensive to employ, should be used in all future studies. While both investigators apparently thought that their work established at least a strong presupposition on this basis in favor of the item unit, re-examination of their data cannot fail to impress one with its very approximate

[1] " The Scientific Analysis of the Press ", *Independent*, 73: 895-898. The article also reports the results of comparative studies made on foreign and English language papers in New York City.

[2] Smith, R. G., *Quantitative Problems in Press Analysis* and Johnson, Glenn, *News Variability in an American Journal*, both Master's Essays in the Faculty of Political Science, Columbia University, New York City.

character. The samples were small, 22 issues of a single newspaper in one case and six issues each of three papers in the second. The results expressed in the form of parallel tables [1] give figures which not only might be altered considerably, were the size of sample increased, but which on their face do not indicate a degree of correspondence which would enable one to use the item-counting method with confidence as a substitute for measuring space. Much more, however, needs to be said with respect to the usefulness of item counting and we shall return to the subject later.

A still more important problem which students at Columbia undertook to investigate was that of the number of issues necessary to make up a statistically adequate sample. The general conclusion [2] was that for newspapers maintaining a somewhat controlled makeup a week, or six consecutive issues, if carefully selected so as to avoid the biasing effects of "big news stories", was sufficient to give stable results. The method again was that of the parallel table and the graph comparing the results obtained from successive six-day samples, a rough technique at best but possibly accurate enough to establish the reliability of a sample of that size for purposes of the grosser comparisons between newspapers.

[1] Johnson's table was as follows:

News Category	*Count by Items*		*Space Measurement*	
	%	*Rank*	*%*	*Rank*
Economic	30.72	1	28.13	1
War and political	22.00	2	23.38	2
Sports	12.65	3	11.47	5
Accidents, vice, crimes	12.05	4	9.80	6
Personal	11.29	5	13.44	3
Cultural	9.96	6	12.65	4
Misc.	1.33	7	1.13	7
	100.00		100.00	

[2] See in this connection the Columbia Master's Essay of Arthur R. Cummings, *op. cit.* Other work (unpublished) was done by F. A. Ross.

For any detailed analysis of newspaper differences or of changes in the policy of a single newspaper a more refined technique of sampling would surely be required.

Other attempts to refine the methodology were made from time to time. These were interesting more as exemplifying a clear recognition of the necessity of perfecting the instrument before applying it in general Public Opinion study than for any permanent significance of the results obtained. A. R. Cummings [1] included an "efficiency test" in his study, an attempt to find the least time-consuming methods of space measurement, classification and enumeration. Johnson [2] tested out a method of enumeration by weighing clipped items (instead of measuring). In addition to these methodological studies a number of other students were applying the method to various journals using the standard set of categories previously developed. One of the most carefully done of this later group of research projects was completed in 1926 by J. A. Neprash.[3] It is a comparative study of the twelve large New York dailies with special reference to the differences found between the orthodox papers and the group of tabloids.

By far the most tangible result of the experimental work initiated and carried on at Columbia is the study of Malcolm M. Willey published in 1926 under the title of *The Country Newspaper*.[4] Willey measured the space occupied by all the articles, including headlines, in 24 issues each of 35 country weekly newspapers in the state of Connecticut. A

[1] Cummings, A. R., *A Quantitative Analysis of a New York Newspaper and An Efficiency Test* (Columbia Univ. Master's Essay, 1914).

[2] *Op. cit.*

[3] Neprash, J. A., *A Comparative Analysis of the Metropolitan Daily Press* (Columbia Univ. Master's Essay, 1926).

[4] University of North Carolina Press, Chapel Hill, N. C., 1926.

system of 49 categories, specially adapted from the regular Columbia list in order to fit the small rural paper, was used in classification and in addition the place of incidence of the news, i.e., local, county, state, nation, etc., was also recorded. The results were taken as a measure of the rural mind and also of the quality of "socializing influence" exerted by the papers, both individually and collectively.

We cannot here discuss the significance of the results of Willey's study but certain contributions to the method of press analysis and also certain methodological defects may be briefly noted. Willey may be said to have made advances in the use of the method in the following particulars: (1) he made a deliberate attempt (with a sample so constructed as to weight each portion of the year equally) [1] to measure seasonal variation; (2) a distinction was made between "shop set" and syndicated "boiler plate" matter in classifying news articles; (3) an effort was made to objectify the process of classification by using the newspaper man's concept of the "what" of the news story, found always in the first sentence or "lead", as a basis for making decisions; (4) an attempt was made to examine into possible reciprocal relationships existing between the variable amount of news found in two categories; [2] and (5) an "index of concentration" was developed to measure the tendency of the 35 newspapers as a whole to devote a certain proportion of their available space to news of a given type. This latter index, really a measure of general newspaper "policy" with respect to a news category, was arrived at by taking the average of

[1] The twenty-four issues were taken in six groups of four consecutive days each and these four-day sampling periods were taken one in February and one in every odd month thereafter. The sample for each newspaper included the same set of days.

[2] The Pearsonian correlation coefficient was used here with 35 pairs of category totals (one for each paper in the study). The results were largely negative.

the 35 percentages representing the *proportion* of space devoted to the given category by each of the thirty-five newspapers.[1] It is used as a technique for getting a summary of general Connecticut weekly newspaper practice with each single newspaper given equal weighting.

On the other hand certain defects in Willey's methodology may be discussed. In the first place while he had a larger sample to work with than had most of the previous investigators, Willey failed to ask himself the question whether it was large enough. There is no way of telling which of the differences between category percentages and totals are significant and which are only the results of the fluctuations of sampling. While in general he has been careful in drawing conclusions the use of some technique for taking these sampling errors into account would have strengthened the study enormously. Another fault in a study that pretends to the scientific character that Willey's does is the failure to meet squarely the old problem of the objectivity of the news catagories. Willey says,

> Knowing the "What", classification of news is not a difficult matter. Through it the essential precision is obtained.[2]

but no proof of this precision is offered. Doubtless to have taken the trouble to demonstrate the truth of his statement would have led Willey far beyond the limits of the time and energy worth expending on the particular problem at hand;

[1] The percentage for each newspaper was apparently arrived at by lumping the space totals for each four-day sampling period together, computing a percentage for each of these six four-issue groupings, and then averaging these six percentages. It will be noted that this represents a modification of Garth's procedure of giving each issue (instead of each four-issue group) equal weighting in the final average. Willey's method is evidently an attempt to take the seasonal variation factor into account.

[2] *Op. cit.*, p. 35.

the final demonstration of category stability is the work of an adequately staffed and financed research bureau. But at least the problem should not have gone unrecognized.

In spite of these difficulties Willey's study represents in general a considerable advance in method over all previous work while on the sociological side the utility of the quantitative approach becomes much more clearly evident after this demonstration of its application to an important concrete problem.

This historical survey can now be concluded with a reference to the recent work of S. A. Rice and W. Wallace Weaver at the University of Pennsylvania.[1] In an article entitled "The Verification of Social Measurements" printed in 1929[2] they report the results of a study aiming to develop the much needed statistical technique for standardizing a set of categories. Twenty-two of Professor Rice's students were each set the task of measuring and of classifying according to Willey's modification of the Columbia system of categories the same set of five newspaper issues (one issue for each of five different newspapers). The students were provided in advance with detailed definitions of each of the 49 categories and in addition Rice reports that periodic discussions of classification problems were held by the group during the course of the work. Even with these precautions the results, after eliminating those due to obvious misunderstandings, indicated considerable variation between the classifications of the different investigators. The problem then became one of finding some way of expressing in quantitative form the *degree* of this variation and a partial solution was found in the development of what was called the "coefficient

[1] Rice became interested in newspaper study while a student under Tenney at Columbia; hence the classification of this study with the group just described may not be wholly inappropriate.

[2] *Social Forces*, 8: 16-36.

of aggregate variation", a measure which is built upon the familar average deviation but which, in combining the average deviations of the classifications in the different categories into a single coefficient, takes account of their interdependence.[1] This coefficient provides a useful and convenient numerical index for comparing the relative stability of two or more sets of categories or for measuring the relative agreement of two or more investigators in using the same categories [2] but Rice and Weaver point out that the scale of values of the coefficient is as yet purely empirical. They have not as yet been able to assign any but comparative significance to the various possible values nor have they been successful in an attempt to determine the most probable value of the coefficient resulting from a blind allocation of the news items to the various categories.

While the experimental side of the study was doubtless of too limited scope [3] to provide any very satisfactory evidence of the stability or instability of Willey's system of categories the development of the coefficient of aggregate variation by Rice and Weaver places a valuable instrument in the hands of those who attempt a standardization procedure in the future.

[1] "The coefficient of aggregate variation is equal to one hundred times the sum of the average deviations of the separate categories divided by the sum of the means of the separate categories." *Ibid.*, p. 22.

[2] The coefficients are only strictly comparable when the number of investigators and the number of categories are the same since the upper limit of possible values of the coefficient varies with variation in either of these quantities. Over the normal range of probable values that would be obtained with a reasonably well defined set of categories errors introduced through comparisons of the type just condemned on theoretical grounds are, however, probably negligible.

[3] Five issues constitute hardly more than the necessary practice period which would be a preliminary to actual recording in any adequate standardization proceeding.

THE PRESENT STATUS OF THE METHOD

We can now conclude the chapter with an attempt to summarize briefly the situation which now exists with respect to the method of quantitative press analysis. Let us first list those portions of the general methodology which now appear to be validated.

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In the first place one can perhaps safely say that the utility has been demonstrated of some such quantitative method of analyzing newspapers as has been employed variously in the studies just described. Even where the method has been most faulty, as in the studies of Fenton, Riis and Wilcox the importance of the problems attacked has been manifest and the results obtained, unreliable on statistical grounds though they may be, have at least possessed an obvious relevance to those problems. With Willey's and Neprash's studies, although their results have not here been adequately described, this has been even more true. The conclusion at least seems justified, then, that the space unit (and perhaps also the item) does possess meaning as a measure of real public opinion stimuli or as an index of public attention at least, whatever may be the ultimate relation to reader's attitudes. The development of a valid statistical technique for treating space units in newspapers would therefore seem to be well worth the while.

In the development of the technique just referred to one can however report only a relatively small modicum of progress. Once the usefulness of the space unit has been decided upon the next most important problem to be faced is that of classification. It has been demonstrated that individual investigators can so define and use a set of categories as to make results expressed in those terms reasonably intelligible (*cf* Willey's study) although there is an admitted subjective factor involved, the magnitude of which is difficult to determine. Rice and Weaver have pointed out that where

a single expert does all the classifying the unreliability attaching to it is considerably reduced [1] and one may add that since in most studies of this type the reader must always depend largely upon the insight of the author for interpretation and conclusion there may be some definite advantages in having the later execute the entire work of classification himself. While the reading public gains in insight into the study through the *averaging of meanings* in the terms defining the various categories which comes with the employment of several classifiers this advantage is doubtless counterbalanced by the loss of insight into the study by the man who is going to write the final report. In general, however, the time required for measuring, classifying and tabulating an adequate number of newspaper issues is such as to make a division of labor necessary in all but studies of the most limited scope. In these circumstances all that can be done at present is to run a preliminary test in which the various classifiers, after training and practice, are asked to deal with the same material. The coefficient of aggregate variation resulting from this test must then be included in the final report of the study so that the reader can judge for himself the degree of credence to give to the general findings.

More progress has been made in the technique of summarizing the data than in gathering and classifying it. The problem of securing indices that will be comparable as between newspapers and as between issues of a single newspaper has been solved by several investigators. The use of the ratio between the news in the individual categories and some control figure, usually the total for all the categories, as the index sought for is a simple way out of the difficulty of securing comparability between newspapers. The index is even more useful as a means of summarizing the results obtained from several issues of a single newspaper since

[1] *Op. cit.*, p. 19.

when it is averaged, each day, a novel news situation, is quite properly weighted equally. The index lends itself also to the application of tests for reliability; this phase will be discussed in a succeeding chapter.

A few of the methodological problems still to be solved before a large-scale quantitative analysis of newspapers can legitimately be undertaken may now be enumerated. To begin again at the basis of the whole method one may say that while the utility of some quantitative unit may be said to be established, further work is needed to aid in deciding just which unit will prove in the long run most serviceable. Is the space unit or the item theoretically more sound and if the former then may the latter still be substituted on the grounds that it gives practical identity in the results? If the space unit is employed to what degree of refinement may its definition profitably be carried? Should one measure to the nearest inch, half inch or quarter inch; and more important, should one take into account variations in type face, column width, position in the paper, size of headlines, etc.? Answers to these latter questions rest first upon one's conception as to the inherent accuracy of the method as a whole and second upon the degree of precision sought for in the particular investigation at hand; but studies in which the results obtained from the use of various alternatives are compared would aid greatly in throwing light upon these problems.

Little more need be said with respect to the standardization of categories except to point out the obvious need of further research building upon the work of Rice and Weaver. As to the third of the three major problems of method referred to at the beginning of the chapter,[1] the problem of developing tests of that unreliability in the results which is due to observational and sampling errors, practically nothing, if we except the limited attempt of Garth, has been done by

[1] See page 21.

way of solution. It may be repeated that with a method as costly of application as this one this problem, especially that portion relating to errors of sampling, is fundamental for any large scale employment of the method.

Signs are not lacking that the solution of many of these methodological difficulties are not too far distant. Aside from experimentation upon and with the method of quantitative newspaper analysis at Columbia research in this field is under way at the University of Pennsylvania under Professor Rice,[1] at the University of Minnesota under Professor Willey,[2] at the University of Wisconsin under Professor Willard G. Bleyer, and at Bryn Mawr College under Professor Hornell Hart.[3] It is hoped that the study described in the following chapters may also constitute in some sense a contribution to this work.

[1] Some of the Pennsylvania projects are described in the unpublished paper by Professor Rice previously referred to.

[2] *Cf.* Willey, M. M., "The Influence of Cultural Change upon the American Newspaper", a research report in the *Publications of the American Sociological Society*, 23: 207-210.

[3] *Cf.* the report of "Current Research Projects" in the *American Journal of Sociology*, 35: 458.

CHAPTER III

The Method of Quantitative Analysis of Newspapers Applied to a Specific Problem

It would appear to follow from the discussion at the close of the preceding chapter that before the method of quantitative press analysis can be employed on a large scale an additional number of preliminary, exploratory studies of the monographic type are yet necessary. The study described in this and succeeding chapters aims to be one of this group and is intended primarily to throw light on the solution of some of the methodological problems which appear to be as yet unsolved. The specific contributions to a research technique for newspapers which it is hoped that this study will make may be listed as follows:

(1) Perhaps the most important aim of the study is to develop criteria for judging the reliability of totals and averages for the various categories of classification. The application of these unreliability measures, once developed, should make it possible to estimate in advance the size of sample necessary to secure results of a given precision accuracy. Ultimately it should be possible also to develop a scale of costs for the conducting of any investigation of any given scope with the method of quantitative press analysis.

The present study will of course afford but a small beginning toward the achievement of such a guide to the budgeting of newspaper research. It is believed, however, that the preliminary steps toward ascertaining the feasibility of a sampling procedure which are taken here are a necessary precondition to the interesting of any research organizations in

the method as a whole. And while only limited conclusions of a positive nature can be drawn from such a small-scale study as this one the possibility of a definite negative conclusion adds value to the work. If the costs in the quantitative analysis of newspapers are going to be prohibitive the present study should reveal the fact, at the same time discouraging research organizations from attempting to secure reliable data by measuring newspapers and single investigators from producing more of the studies of uncertain reliability which have been described in the preceding chapter.

(2) The study will develop and present additional data bearing on the question of the identity of the results obtained by using the space unit and the item unit. The relative merits of the two units will then be reexamined in the light of this new information.

(3) Various types of summary figures for representing the results of a quantitative analysis of newspapers will be tried out and their utility tested in an actual problem situation.

(4) Finally it is hoped that a complete and detailed description of each point of technique involved and each step in the actual procedure of applying quantitative methods to a concrete problem in newspaper analysis will be of value in itself as tending toward objectification and standardization in this field of research. Such a detailed discussion of method is not afforded by any of the studies previously described.[1]

SELECTION OF THE FIELD OF STUDY

The primary interest in this study is, then, a methodological one. But methodological problems at least in this field of research cannot be very profitably discussed in a vacuum from which all questions as to the practical applicability of

[1] Willey's study contains the most adequate discussion of methodology of any of those previously published.

the technique have been expelled. The method is after all only significant in relation to the sociological significance of the results obtained through its use. The validity of the assumptions which it makes, the degree of refinement to which it should be carried, and the meanings to be attached to the results it gives are all to be determined only in reference to the sociological purposes aimed at in the given investigation. If this be true it becomes incumbent upon the student of method in newspaper analysis to select some concrete problem in the general field of supposed applicability of that method to which to relate his work. The problem chosen must first be one upon which it may be reasonably presumed that some light can be thrown by a study of the size he can afford to make. Since the social utility as well as the technical soundness of the methodology is in question the problem should also be one upon which reliable information would be of real social use. Finally the problem must of course be adapted for testing out the particular methodological techniques the researcher has especially in mind.

The result from attempting to apply these criteria in this study was the selection of the problem of foreign-news reporting by American newspapers as the subject of the research. This topic was thought to possess several especial merits. In the first place instead of having to deal with all of the various categories of material found in the columns of the newspaper attention becomes directed on the single category which we can call " Foreign news " or " News from abroad ". This helps greatly in bringing the problem within the scope of the single investigator. Secondly, since this foreign news category as well as the control category " Total news " (*news* as distinct from editorials, magazine material, etc.) is fortunately definable in almost completely objective terms the moot question of category stability becomes practically eliminated from the study. This waives an important

methodological question but one really irrevelant to this study's particular aims. Thirdly, turning to the sociological side, there is evident value in reliable data concerning the "foreign-news policy" of the American press, especially in view of the oft repeated assertions as to our provincial-mindedness. Finally, a more practical value will be the indicating to the internationally minded (or at least internationally interested) reader the best available sources of foreign news.

If a study of this size is to pretend to completeness the field of investigation must be narrowly limited. Accordingly the newspapers included in the enumeration for foreign news content were confined to a selected group of metropolitan morning dailies. The metropolitan papers were chosen in preference to the small city and country newspapers partly because of their large circulation and correspondingly greater value as a possible index of opinion but chiefly because they are the only group of journals which in general make much if any pretense of foreign news dissemination.[1] The choice of morning in preference to evening newspapers is not so clearly indicated; it is obvious that without unduly enlarging the scope of the study it would be impossible to sample both groups [2] but decision in favor of the morning journals was in part an arbitrary one. It may be said in

[1] 32 out of 35 of the small Connecticut weeklies in Willey's study printed on the average less than 1% of shop set foreign news and 25 out of 35 printed less than 1% of syndicated "boiler plate" which could be classified as foreign. Willey did not however give his definition of the term "Foreign news" upon which his classification of syndicated matter into that category was based. Much of this matter carries no date line indicative of its place of origin. *Cf.* Willey, *op. cit.*, p. 64.

[2] In a limited study of this sort it is desirable to have the universe as homogeneous as possible in order that conclusions may be drawn from a relatively small sample. In a series of issues taken on given days the results for the morning newspapers would not be strictly comparable to those for the papers published on the corresponding afternoons since the general news "set-up" will have changed during the twelve hours.

their favor, however, that traditionally they have been the more important of the two groups as news dispensers. The evening papers have been designed for minds less fresh and have consequently contained more feature material of the magazine type and less news. But the evening papers are rapidly assuming a more important place in the field, tending to eclipse in circulation their morning competitors, and so their foreign news policy becomes of relatively greater significance that it was.

A fair sample of the metropolitan morning newspaper field would include one or more of the so-called "tabloid" or picture dailies. This group, however, has also been excluded from the study because of the considerable adaptation in methodological detail which would be necessary to make tabloid results truly comparable with those of the orthodox dailies. Mere inspection is probably sufficient in any case to show that the amount of foreign news appearing in tabloids is very low.[1]

The newspaper field under investigation was still further narrowed by excluding the Sunday editions, concentrating only on the week-day issues. The Sunday newspaper is of a quite different character from the papers issued during the week; it has a different makeup, in part a different editorial staff and a different circulation, and it is reacted to differently by its temporarily more leisured readers. If dealt with at all it should be in a separate study.

SELECTION OF THE SAMPLE

It was of course inevitable that even so limited a universe as has just been described would be investigated only through

[1] Neprash did not have a foreign news category in his study. However on the category "foreign government and politics" which includes only a part of the news from abroad the three New York tabloids ranked 10th, 11th and 12th among the twelve New York City dailies in the number of news items thus classified.

TABLE 1

CORRECTION FACTOR (K) AND AVERAGE WEEK DAY CIRCULATION OF THE FORTY NEWSPAPERS INCLUDED IN THE STUDY

Newspaper	*Correction Factor*	*Circulation**
Atlanta Constitution	0.96	74,000
Baltimore Sun	0.84	126,000
Boston Globe	1.00	126,000
Boston Herald	1.00	106,000
Boston Post	1.00	395,000
Buffalo Courier-Express	0.90	111,000
Chicago Herald and Examiner	0.91	404,000
Chicago Tribune	0.95	762,000
Cincinnati Commercial-Tribune	1.00	69,000
Cincinnati Enquirer	0.90	68,000
Cleveland Plain Dealer	0.96	235,000
Dallas News	1.01	79,000
Des Moines Register	1.01	106,000
Detroit Free Press	1.06	203,000
Houston Post-Dispatch	0.96	61,000
Indianapolis Star	0.98	102,000
Kansas City Journal	1.05	145,000
Kansas City Times	1.02	249,000
Los Angeles Examiner	0.96	197,000
Los Angeles Times	0.96	148,000
Louisville Courier-Journal	0.96	83,000
Memphis Commercial-Appeal	1.00	103,000
Milwaukee Sentinel	1.00	69,000
New York American	1.00	228,000
New York Herald-Tribune	1.00	290,000
New York Times	1.00	393,000
New York World	1.00	302,000
Daily Oklahoman (Oklahoma City)	0.86	78,000
Omaha World-Herald	0.86	58,000
Philadelphia Inquirer	1.00	280,000
Philadelphia Public Ledger	1.00	105,000
Pittsburgh Post	0.95	290,000 †
Portland Morning Oregonian	0.96	104,000
Rochester Democrat and Chronicle	0.91	80,000
San Francisco Chronicle	0.96	94,000
San Francisco Examiner	0.96	183,000
St. Louis Globe-Democrat	0.96	230,000
St. Paul Pioneer-Press	1.00	76,000
Washington Herald	1.01	52,000
Washington Post	0.96	71,000

* Circulation figures (to the nearest thousand) are the average for the year ending Mar. 31, 1927. They are, with one exception, the figures of the Audit Bureau of Circulation and are taken from the *Ayers and Sons' Newspaper Annual* for 1928.

† Post-office report made after consolidation with the *Pittsburgh Gazette-Times*.

a sample. Out of the large number of non-tabloid metropolitan morning dailies 40 were chosen for examination in this study. (see Table 1). The factors which determined the newspapers to be selected and those to be rejected may be listed, in the order of their importance, as follows:

(1) No newspaper was chosen whose average week-day circulation in 1927 was less than 50,000.

(2) It was necessary to take into account the practical difficulty of securing copies of the newspapers on the particular days of issue chosen for the time sample. The newspapers used in the study were obtained through a New York agency and its ability to furnish the desired issues to some extent dictated the list of the forty finally chosen.[1]

(3) An effort was made in selecting the original list to obtain a good geographical distribution. A number of newspapers in the west and south were chosen in preference to papers with a larger circulation from the already well represented east.

(4) Finally, subject only to the first and second considerations named above, it was made a rule where a single newspaper was chosen to include in the sample all its local competitors (exclusive of tabloids) in the morning field.

In time the study covered a period of about nine months (January to October) in 1927. During this period there were no great world cataclysms or other factors which would

[1] There were originally five more papers in the sample. But the *Pittsburgh Gazette-Times* merged with the *Post* during the course of the investigation while in the case of the *Minneapolis Morning Tribune*, the *Omaha Morning Bee*, the *Seattle Post-Intelligencer*, and the *New Orleans Times-Picayune* the agency failed to deliver one or more of the issues for designated days and the publishers, when written direct, were unable to furnish them from their back number files.

have a pronounced effect upon the printing of foreign news. While it is very difficult to generalize on the basis simply of ordinary observation news conditions during this nine months appeared to be not greatly different from those prevailing in the post-war period generally.

Between January and October approximately 240 week day issues of each newspaper are published. Since to measure and classify the contents of $40 \times 240 = 10{,}600$ separate newspaper issues is a task far beyond the scope of the single investigator it was necessary to attempt to represent these 10,600 issues by a random statistical sample taken from among them. This sample comprised sets of *eighteen* issues for each of the 40 newspapers which for the sake of comparability in the averages for the different papers were all taken for the same list of eighteen selected days. These days were distributed fairly evenly over the nine months' period and, in order to avoid bias in choosing twenty-four hour periods in which there was an especially large or an especially small number of significant events happening abroad, they were fixed upon in each case a week in advance, before a news forecast was possible. The days were also so chosen as to have each week day represented in the total sample three times ($6 \times 3 = 18$) and so as to include only one day from any given week. The essence of all this procedure may be summarized by the statement that actual measurement was made on a sample of 720 issues divided into 40 comparable sub-samples, one for each newspaper, of eighteen issues each.

Before proceeding to set forth the details of the technique of foreign news measurement which was applied to the sample just described it may perhaps be well to raise the question as to the nature of the conclusions about our general universe of investigation which we can justifiably expect to draw from a sample thus constructed. Concretely, will the results of the measurement of this relatively small group

of newspaper issues enable us to describe the foreign news policy of American metropolitan morning dailies with any degree of accuracy? This question as to the relation of sample and universe is of course a crucial one for the present study. Also, as has already been pointed out, any conclusions that are drawn with respect to it will have significance with relation to the validity and usefulness of quantitative newspaper analysis in general. Possibly this latter fact will justify the perhaps otherwise over-detailed discussion which follows of the *representativeness* and of the *adequacy* of the sample of the present study.

REPRESENTATIVENESS OF THE SAMPLE

This study has been arbitrarily limited to the development of a technique for measuring foreign news content in a certain class or type of newspaper over a certain period of time. Does the sample just described fairly represent that universe? With respect first to the list of journals included it may be noted that they number among them all of the recognized leaders in circulation and prestige in the morning metropolitan field together with a number of lesser newspapers from cities like Omaha, Portland, Rochester and Dallas. The Hearst newspaper group, a more or less distinct class of journals, has six representatives on the list. While the Scripps-Howard group has none its importance is almost entirely confined to the field of the evening paper and the special Sunday edition. All in all, therefore, the forty papers in the sample should speak fairly well for city morning journalism as a whole.

The geographical distribution of the cities whose newspapers are to be examined becomes of importance only in case one wishes to generalize concerning Northern, Western, Southeastern, etc., reading publics whose attitudes and interests are possibly in part revealed through a knowledge of the content

of their favorite dailies. This question of the public opinions of newspaper readers is not one of those directly at issue in this preliminary study and little need be said, therefore, concerning the geographical representativeness of the present sample. The problem first would be one of finding out what publics are actually included in the circulation of newspapers on the list of 40 and only after this was determined could the second step of relating these sampled publics to the American public at large be undertaken. But it would be quite difficult to get a geographical plotting of the circulation of most of these journals. Statistics as to the proportions of readers which are urban, suburban and rural are indeed available for some of them but to attempt to utilize these figures to select newspapers whose total circulation represented a graduated sample of rural, suburban and urban American publics in a series of regional areas would certainly not be justified in this study. Even if such a procedure could be defended on logical grounds it would represent far too great a refinement to apply to the data until the validity of the newspaper-content index is better established. It is better at this stage to say that the 40 newspapers in the sample are so distributed geographically as to represent the country and its large regional areas only in a very rough sense. In the light of this statement conclusions from the results of this study as to the relative provincialism of East, West, Far West, South, etc. will be made with due caution.

The present study, whatever may be its significance as a measure of the Public Mind, is at least expected to describe accurately a certain phase of newspaper practice at a certain period of time. What period of time can be said to be covered by our sample of 18 issues? In part the answer to this question is a matter to be decided by reference to the statistical theory of probability and this phase of the matter will be discussed under the head of the sample's adequacy.

Before, however, this theory becomes applicable some assurances as to the homogeneity of the time universe under investigation are necessary and unfortunately these are difficult to give. In this study, as in most time series work in the social sciences, we are dealing with a complex variable whose fluctuations are affected by a very large number of incommensurable factors.[1] We can guard against drawing broad conclusions when some obvious and important change has taken place during the period of sampling but as for these less important and essentially unmeasurable factors we are forced to assume that their action has not changed markedly during the period of investigation or else that their fluctuations tend to be complementary and hence to cancel each other out.

Since the nine months of 1927 were selected deliberately as exhibiting no large and apparent lack of homogeneity for the factors which would control "foreign news policy" we are perhaps justified in assuming that our sample of 18 issues is fairly representative of that period, especially since the results themselves indicate no discernible trend.[2] As for the

[1] The amount of foreign news printed is not only affected by the number, and from a news point of view important, happenings abroad but also, since there is a competition for space, by all the events at home. In addition such factors as the temperaments, interests, biases of reporters, editors, and telegraph operators; the time when stories "break"; the cost per word of cabling; censorship; "human interest" content; etc., etc.; all play their part in determining what in its result on the printed page we call "newspaper policy".

[2] This is to say that the first and most important of Yule's three conditions for simple sampling, which must be fulfilled if probability theory is to be applicable for determining the adequacy of the sample, is approximately satisfied. The second condition, pertaining to sub-groups in the sample, is taken care of by including an equal number of issues on each day in the week. Any errors in inference on account of this second condition will be on the safe side in any case since the sub-groupings increase the stability of the sample as a whole. The third condition, that the amount of the foreign news in each issue of the sample be independent

predictive value of the results from one nine-months period, however, one must be more cautious. Newspaper policies, though, are not subject in general to violent fluctuations so that our results for 1927 would probably have foretold the situation in 1928 without great error and indeed are certainly of some value in describing the situation as it exists today. Of course there are no means of demonstrating the truth of these assertions short of repeating the study with samples for successive years. With the method once standardized this can be done without too great a labor.

SIZE AND ADEQUACY OF THE SAMPLE

The second important characteristic which a sample must possess is *adequacy*. One can speak of a sample as being adequate when it is of sufficient size so that the normally expected errors due merely to the fluctuations of random sampling [1] will not be so large as to destroy, for the purposes of the particular investigation in hand, the significance of the results obtained. So defined it will at once appear that it is the determination of the adequacy of the sample of 18 issues employed in this study that has been previously described

of that in preceding and succeeding issues in the sample is taken care of by interposing at least eight days between any two sampling dates.

For a description of these simple sampling criteria in abstract terms, *cf.* Yule, G. U., *An Introduction to the Theory of Statistics*, p. 336. The difficulties involved in securing a random or "simple" sample of a time series, difficulties which are certainly apparent in this study, have been most ably discussed by Howard R. Tolley in an article entitled "Economic Data from the Sampling Point of View", *Papers and Proceedings of the 19th Annual Meeting of the American Statistical Assn.*, 1928, pp. 69-72. See also Day, E. E., *Statistical Analysis* (Macmillan, 1925), Chapter 24.

[1] Errors of observation, computation, etc. and other errors not traceable solely to the attempt to measure a universe by means of a sample drawn from it at random may bear also some relation to the number of cases drawn. But each such relationship must be examined separately. *Cf. infra*, p. 63 *et seq.*

as the study's chief aim. The method employed to test out the sample in this respect and the conclusions which result are dealt with in Chapter V.

THE DATA OF THE STUDY

The enumeration techniques applied to the sample whose representativeness and adequacy have just been under discussion may now be set forth. The following paragraphs define the unit and the categories of classification employed in the investigation and outline the actual enumeration procedure.

The Unit of Space Measurement. The standard unit used in the study was one column centimeter of body type containing four agate lines with a column width of 25 ems (12 ems=1 inch). The procedure in employing this unit was to measure first the various news stories in a paper with an ordinary centimeter rule, recording these measurements in column centimeters regardless of the size of type or the width of the (single) column. When the total in any category for all eighteen issues of a given newspaper was available it was then multiplied by a correction factor, *K*, whose effect was to correct the raw figures for the variation in column width and leading from the standard given above. The corrected total, expressed in " standardized column centimeters " was then presumed to be comparable with similar totals for another newspaper with a different width of column or number of agate lines per centimeter in the body of the paper and hence with a different correction factor.

The method of determining the correction factor for a newspaper may be further illustrated by the use of an example. Take the newspaper the *Dallas News*. From *Ayers & Son's Newspaper Annual* it is learned that the standard width of a single column in that newspaper is 24 ems. To ascertain the average number of lines of body type per centi-

meter sample measurements of 10 centimeters each are made on a number of inside pages and where the typical conditions of type size and leading appear to prevail. The average of these several countings of lines of body type per 10 centimeters was in the case of the *Dallas News* 42. Then the correction factor for the *News* is

$$K = \frac{w}{25} \times \frac{l}{40} = \frac{24}{25} \times \frac{42}{4 \times 10} = 1.01$$

In this particular case it may be noted that the actual correction applied to the raw figures is a practically negligible one and hardly worth making. Reference to Table 1 where the correction factors for each of the 40 newspapers are set forth will indicate some cases, however, where the correction is as much as 15 per cent on the raw totals. Such a tampering with the actual measurements is a more serious matter and may seem to require some additional explanation.

The purpose in employing the correction factor is to allow for differences between newspapers in the printing of a news story of a given number of words. The particular differences considered, and they are only the more obvious ones, are, as has already been indicated, differences in the width of the column, the amount of "leading out" a story receives,[1] and the size of type used. These differences are not taken account of as each news story is measured but only when the measurement is all completed, by multiplying the raw totals by the correction factor for the newspaper in question. Since this correction factor is computed for each newspaper on the basis of that paper's *average* practice with respect to type sizes and line spacing the result is that when two newspapers are to be compared the comparison is made on the assumed common basis of the space areas occupied by their respective modal lines of type. In other words the effect of

[1] Or the putting of type of a given size of face on slugs of a larger size.

the correction factor is to compare newspapers each with news display techniques varying from page to page and article to article by equating the modes of these display policies. This equating is done on the theory that degrees of emphasis placed by display policy on articles in a single newspaper are best to be conceived as relative to that newspaper alone. To ascertain the relative effects upon the reader of a 200-word 10-centimeter article in the conservative *New York Times* and in a paper having a general display policy of a much more lurid nature, as for instance the *New York American*, is a vastly more difficult problem since the story appears in the two cases against quite different backgrounds. In this study the attempt has simply been to equate these backgrounds, thus waiving the question as to their relative attention-compelling qualities.

As a corollary of the system of comparing the content of two newspapers by assuming the comparability as units of their modal lines of type it evidently follows that articles in either newspaper printed or displayed in other than its modal manner will be either positively or negatively weighted in the computing of the content totals. The tendency will be of course to give plus weightings in the enumeration for any newspaper to stories printed in larger than body type and to articles leaded for additional emphasis or indented or boxed. On the other hand articles not leaded at all or printed in four or six-point type where the average is eight point will bulk smaller in the totals than other stories of the same number of words. This informal weighting system based on the relative space area occupied by news stories of the same length is in effect that already used by Garth, Johnson, and others in previous studies;[1] the only refinement is the adjustment of

[1] Willey measured content in terms of column inches but included headlines at their column length. He did not attempt to correct for differences in "leading" between papers.

the thus weighted totals in order to make comparisons *between* newspapers on the basis of their body types and average spacings. The whole system is less elaborate by far than that of Bleyer[1] who has a weighting scale for taking into account many other factors such as the position of the article in the paper, the size of headline (headlines are excluded from measurement in this study[2]), the presence or absence of illustrative photographs or diagrams, etc. Bleyer's system is based on a consensus of expert journalistic opinion as to the attention-compelling values of these various display techniques and its use under certain circumstances may represent a real refinement in methodology. In this study, however, the use of the Bleyer weights would have enormously complicated the enumeration procedure and it was thought best to confine weighting to the less arbitrary and more or less automatic system which has been described above.

The definition of the category "Foreign news". In this study we have chosen to measure foreign *news,* or news from abroad, rather than "material about foreign countries", which would include not only *news* despatches but also editorials, travel itineraries, novels with a foreign setting or locale, and even Katzenjammer Kids' cartoons. This choice has been made partly for the methodological reason that the category "*News* from abroad" can be more objectively defined and partly because among the various things the press does to shape (and reflect) public attitudes toward foreign lands and their inhabitants the reporting of foreign *news* is one clearly marked off from the rest and one which the press views as its more or less exclusive function. The public

[1] Bleyer's system has been developed for the use of his students in analyzing the content of newspapers as a part of their work in a course in journalism. A system similar to that in use under Bleyer at the University of Wisconsin may be found in the *Journalism Bulletin,* vol. i, no. 1, pp. 17-22.

[2] *Cf. infra,* p. 60 *et seq.*

generally concurs in this view of the press as primarily a source of information at least as far as foreign affairs and happenings are concerned and it would therefore appear logical procedure to test the newspaper on its news rather than on other matter at least equally available in weekly journals of opinion, in books and in magazines.

The category "Foreign news" which is then to be employed in this study has been so defined as to include news stories and news stories only, carrying a date line from any country other than the United States, Mexico, Canada or Alaska. This arbitrary and apparently unorthodox delimitation of domestic boundaries so as to include neighbor nations is dictated chiefly by the fact that news despatches from Canada and many of those from Mexico come in over land wires while news from other countries comes usually by cable or by wireless. All news stories classified as "foreign" under the definition just outlined were further subclassified as (1) foreign news furnished by the Associated Press or as (2) "Other foreign news" deriving from other news services or from the newspapers' own special correspondents. Since Associated Press despatches must be specifically credited to that news service when printed by a member newspaper they were always easily identifiable; the sub-classification therefore presented no difficulties.

The major classification separating "Foreign news" stories from the magazine-type article on foreign affairs could also be made with a high degree of objectivity since the latter are usually written in this country and are therefore printed either under a domestic date line or with no date line at all. Editorials, advertisements, cartoons, appear also without a date line and hence are not subject to possible misclassification in the foreign news category. All in all the definition of foreign news employed in this study, whatever may be its possible demerits, at least appears to give objectivity in actual classification.

The definition of the category "Total news". While the stability of the foreign news category can for all practical purposes be assumed without much demonstration the situation is quite otherwise with the control category "Total news" which is supposed to be inclusive of all the various kinds of *news* matter, foreign or domestic, which the newspaper prints. It is not always as easy to distinguish some types of magazine material or "feature article" from genuine domestic news as it is to make sure that these articles do not fall into the foreign news category. Consequently there is need for a somewhat more detailed consideration of the stability of this category "Total news".

The procedure to insure stability of a category of classification is usually one of first securing as specific a definition of the common attributes of the desired class group as possible [1] and then, second, of supplementing this definition by a series of consistent but arbitrary rulings on the border line cases as they arise in the process of classification. The results of this classification must finally be subject to check

[1] Practically this definition arises in most cases only in the course of the actual classifying. One begins ordinarily with only a very general idea of what one wishes to group together under a heading defined by a single descriptive term. As classifying proceeds this more or less vague term acquires concreteness. At the start every case is a border-line one; only later after various investigators have had experience with the use of the category do we get a distinction between the stories which all will classify alike on the basis of their general concept of the meaning of the category and the stories which, since agreement cannot be obtained as to where to place them, must be the subject of arbitrary ruling. It is these cases that are doubtful even to the *experienced* investigator which can be called truly border-line.

In developing a *system* of categories within a general class the procedure is even more an inductive one. One starts out merely to classify "similar" material together and the categories finally chosen are described from the material found in them at the end of the experimental period. It was this procedure followed by Professor Tenney and his students which led to the Columbia system of categories.

through the classification of the same material by others and through reclassification by the original agent.

We can define news so as to distinguish it from magazine matter by the single characteristic, currency or "timeliness". As Lippmann says, "The function of news is to *signalize* an event".[1] Wilcox put the idea in slightly different words when he proposed to include under the head of news in his study "every item that is a first hand report of a current event".[2] To determine the timeliness of a given article one ordinarily has only, as Willey pointed out, to examine the first sentence, known as the "lead" in newspaper parlance, where the nature of the ensuing article is concisely set forth. It is only rarely, as far as the purposes of classification are concerned, that the rest of the story need be read at all.

But even with the definition of news as just outlined doubtful cases of classification do arise and these must be arbitrarily assigned to one or the other category as "News" or "Not news" ("Feature"). A list of the specific rulings of this sort which were in force during this study is given in Table 2. These rulings will be found to cover most of the doubtful cases; others arising only with a single newspaper were settled along the same general lines and the ruling once made was adhered to throughout the work of enumeration and classification.

It had been intended to subject the category "News" which we have just been defining to a test to see if it proved stable when used by several investigators and when the material was reclassified by the original investigator. Limitations of time and especially difficulties encountered in securing duplicate copies of the newspapers on the specific days of sampling[3]

[1] *Public Opinion*, p. 358.

[2] *Op. cit.*, p. 61.

[3] The markings placed on the copy used for the original enumeration would make impossible its use again for a re-check.

TABLE 2

RULES EMPLOYED IN CLASSIFYING AN ITEM AS "NEWS" OR AS "FEATURE" (NOT NEWS)

News Articles *	*Feature Articles*
1. GENERAL RULINGS	
Stories with a current date line.	Stories copyrighted by an avowed feature service syndicate.
Stories dealing with a timely event.	Stories dealing with events not timely.
2. SPECIAL RULINGS	
Reviews of concerts, operas, theatrical performances, moving pictures, and radio programs just presented or about to be presented in the local area.	Editorials.
Weather reports and forecasts.	Letters to the Editor.
Race reports and forecasts.	Book reviews.
Market reports, and analyses of current conditions and trends in the market.	"Columns" personally signed unless they give information concerning timely events.
Radio programs.	The mast-head.
Tables of deaths, marriages, births, business incorporations, legal decisions, business failures, ship arrivals and departures, ship positions at sea, etc. when printed free of direct space rate advertising charges.	Magazine material such as "Advice to the Lovelorn", the "Inquiring Reporter", "Cooking Recipes", "Beauty Hints", etc.
Theatre "readers" or "puffs" referring to current attractions playing or about to play.	Novels, short stories, poetry, jokes.
"Human interest stories" when they deal with current events.	Electrotype cuts.
Lists of "books most in demand at libraries".	Articles on radio technique except accounts signalizing new inventions just made.
	Advertising matter, except theatre readers.

* Where the classifications in the two columns are not mutually exclusive the ruling in the left-hand column takes precedence.

prevented this desirable check-up. The question as to the ultimate stability of the control category "News" is accordingly waived for this study. It may be noted, however, that since only two enumerators worked on the classification in the study and since they handled an approximately equal number of issues of each of the 40 newspapers any constant differences between them in the use of the rulings of Table 2 will at least be effective upon all 40 papers in approximately equal amount. Such differences were minimized in any case by repeated consultation between the enumerators as to the ruling to be made in doubtful cases.

The definition of the news "item". One of the aims of the present study is to compare the results arrived at by the use of the space-measurement and the item-counting methods of describing "foreign news policy". It is therefore necessary to adopt a definition of the "foreign news item" and this is simply done by providing that each foreign news story possessing its own date line shall be so considered. While a definition of this sort would lead into difficulties if applied to all types of news stories [1] it works very satisfactorily so long as foreign news only is being considered. Each separate news dispatch from abroad is ordinarily printed below its own date line even if it shares a headline with other despatches.

One other aspect of the problem of defining an item must be considered. Even where the fundamental measurement

[1] In domestic news stories, particularly in the case of "Society Notes", "Sport Brevities", "Wall Street Notes", etc., a series of separate paragraphs are strung together under a single headline and it is frequently difficult to decide whether these paragraphs should be treated as separate items or as a single item. In such a dilemma, it was Glenn Johnson's (*op. cit.*, p. 31) technique to decide the matter in each instance in such a way as to make the average length of item in the given category more nearly approach that in the newspaper as a whole. Decisions of this sort were made in a preliminary run over a few of the newspapers in his sample and then applied consistently during the regular data gathering.

of newspaper content is in terms of column centimeters or inches the item still remains the unit of classification. Instead of examining each column centimeter a news story is treated as a whole not only in deciding whether it is foreign or domestic news but also in making the more fundamental decision as to where it is "News" or "Feature". In the latter instance classification is based on the story's lead, as has already been described, but one may of course raise the question as to whether "items" ever have two leads, i.e., deal with two different subjects. The practical answer is, however, that while columns with single headings such as "Local News Brevities", "Around the Town", and "City Bulletins" sometimes do contain paragraphs which should be classified separately, it almost never happens that some of these paragraphs will be classifiable as "News" and others as "Features". Since the study is confined to these two basic categories where news and feature items carry separate headlines and to the foreign news category where the items carry separate date lines a serious methodological problem in defining the unit of classification does not arise.

The exclusion of headlines from the enumeration. It was necessary to come to a decision on one other important methodological question, the inclusion or exclusion of headlines in the actual measurement, before enumeration could be commenced. Willey included the headline as a part of the story in measuring the content of his country newspapers, arguing that the size of the headline was an index of the emphasis the editor intended to give the story and hence an indirect measure of public interest.[1] Johnson followed the same pro-

[1] *The Country Newspaper, op. cit.*, pp. 47-48. Willey says:

"Since the headline is one of the best scales by which to measure the importance of a news story—at least in the editor's estimation—it seems sound to include it. There is ample justification for doing this: the size and depth of a headline usually vary with the importance of the appeal of an article, and not with the length of the item itself."

cedure; Rogers and Garth apparently did not. The elaborate system of Bleyer which not only includes headlines in the measurement of the item but also multiplies this total space occupied by the item (story plus headline) by a special weighting factor proportioned to the headline size has already been mentioned.

The validity of the procedure of Willey, Johnson and Bleyer depends, as the present writer sees it, upon the degree of homogeneity in headline policy exhibited by the group of newspapers which are under investigation. Where the scale of headlines in regular use is approximately the same from newspaper to newspaper, as may well be the case with Willey's country newspapers, the inclusion of headlines in the measurement of content would seem justified. When, however, comparison is between a paper which uses "scare heads" habitually and one much more modest in headline policy the question as to the relative emphasis implied by a headline of a given size enters in. It would appear that a six centimeter headline in the less conservative of the two newspapers would get much less attention from the reader of that paper used to seeing the page covered with large black type than would a headline of six centimeters in a more conservative sheet. With the column centimeter as the unit of comparison, however, a six centimeter head is a six centimeter head wherever it appears and as such, if not subject to the application of some weighting factor it is equivalent to six centimeters of body type news. One may justify the "natural weighting" given indented or leaded stories since there the variation in policy between newspapers is not great but to carry the same principle over as a justification of measuring headlines of metropolitan newspapers whose policies on headlines vary quite widely [1] would tend to destroy the meaning

[1] A study of "fourteen morning newspapers" made by one of Willey's students showed a variation in the ratio of headline space to actual news

of the space unit. For this reason headlines were omitted from consideration in this study. For similar reasons pictures and diagrams, even when they accompanied an article classified as news, were also excluded from the measurement.

The enumeration procedure. In the actual enumeration the processes of classification, measurement, and recording were all performed for each single newspaper at the same time and by the same person. Taking the newspaper issue page by page the enumerator would first select and measure the foreign news stories, marking each with its length in column centimeters [1] in red crayon and with a symbol indicating whether it was or was not Associated Press matter. The next step would be the classification one by one of the other items on the page as either "News" or "Feature". The news stories would be measured and their length marked down in blue crayon while the feature articles would be crossed out with a diagonal line. Finally, before proceeding to the next page, the totals in the various categories would be added up and recorded on the data sheet. (A sample data sheet is given as Appendix III). At the end of the analysis of the issue totals would be secured as follows:

(1) The total number of (uncorrected) column centimeters of *news*.
(2) The number of (uncorrected) column centimeters of foreign news credited to the Associated Press.
(3) The number of *items* of foreign news credited to the Associated Press.

space of from 1.57 to 0.27. *Cf.* Willey, M. M., "The Influence of Cultural Change upon the American Newspaper," *Publications of the American Sociological Society*, 23: 207-210.

[1] Where news stories, including indents, were not set in linotype slugs of a column's width the length of the story was multiplied by the width of the slug in fractions of a column. Thus a "double column" story of ten centimeters length would be recorded as 20 uncorrected column centimeters.

(4) The number of (uncorrected) column centimeters of foreign news not credited to the Associated Press.

(5) The number of *items* of foreign news not credited to the Associated Press.

The treatment of these totals for purposes of analysis and the conclusions drawn therefrom are discussed in the two succeeding chapters.

Errors of Observation. A final note is necessary on "errors of observation". These are to be distinguished from "classification errors" (previously discussed under the head of sample adequacy) and are to be thought of as arising primarily in the actual measurement of items and in the compiling of totals. Two types of these errors may be noted, (1) "constant" or non-compensating errors due chiefly to a failure of the two enumerators to handle the measuring rule in the same way and (2), compensating errors, due to faulty observation with the rule and to mistakes in mathematics. The latter type may be dismissed briefly. After the usual mathematical checks are applied to ensure accuracy of the totals there will still be errors in the final figures which can only be removed by remeasuring each page of each newspaper and by readding each page-total. This task it is clearly not worth while to perform; since errors such as these will show no constant tendency in either direction and will tend to cancel each other out. The slight unreliability which they give to the totals will in any case be swallowed up in the much greater unreliability due to fluctuations of sampling.

A serious effort was made to eliminate errors of the non-compensating type by attempting to fix in advance a standard procedure for the two enumerators for handling the centimeter rule. Careful agreement was secured as to the exact point at which items began and ended and also as to the procedure to be used in allowing for space leading or dashes between the several paragraphs of a society column or a series

of short comments on sports, stocks and bonds, real estate sales, etc. No extended check of the effectiveness of this attempt to standardize practice was possible, again owing to difficulties met with in securing the required newspaper issues, but in the six cases where duplicate issues were measured by the two investigators the net difference in the raw totals attributable to measurement errors alone was only six column centimeters. The effect on the totals of any such differences in the practice of the two enumerators as survived the effort to secure uniformity through conference was further guarded against by having each worker analyze approximately the same number of issues of each of the forty newspapers on the list. Possible effects of any peculiarity in his measurement technique were thus distributed equally over the newspapers to be compared.

CHAPTER IV

Sociological Conclusions From the Results of the Study

In this and the succeeding chapters the results of the research are to be presented. While as has already been noted the study's primary purpose is one of experimenting with and perfecting methodology the fact has also been previously emphasized that methodology, technique, acquires real meaning only in relation to a concrete problem situation. Instead, then, of conducting the research in method with abstract or imaginary data a perfectly definite and at the same time socially significant topic, the reporting of foreign news by American newspapers, was selected and the questions of method which naturally arose in connection with the collection and treatment of this foreign news policy data were the ones focused upon in the research.

Since this is the relationship between the two phases of the study, the *methodological* phase acquiring its particular orientation in relation to what may be called for lack of a better term the *sociological* phase, the logical procedure in setting forth conclusions would seem to be to treat the latter first and reserve the questions of method for subsequent consideration. Accordingly the present chapter describes the facts about the foreign-news policy of the newspapers in the sample which appear when the news-story measurements are classified and tabulated. The results are presented as if they were the sole end and aim of the enumeration (as indeed they would have been in all previously published studies except that of Rice and Weaver) and discussion of their use as a background for evaluating methods will be deferred to

a succeeding chapter. Under this outline the first topic for discussion must be a preliminary note on the limitations of the statistician's approach to the problem of describing the policy of the press.

STATISTICAL DESCRIPTION OF NEWSPAPER POLICY

To those who are familiar with the wide variations in journalistic practice that exist even in the same city any attempt to describe the policy of such a vast conglomerate as the daily, or even the morning daily, press of America by any series of statistical coefficients will appear, to say the least, a gross over-simplification. For the average individual, however, interested perhaps in comparing the American press with that of some other country or in plotting changes in the public mind over a period of years, this simplification is necessary for comprehension. He is trying to look at the press or at individual members of it in the large and so he is justified in turning to the statistical average, defective in some aspects of accuracy though it may be, in order to avoid being completely lost in the mass of variant detail. The average, expressed in quantitative form, may give him a more apparent than real sense of accuracy in representing the situation, but at least it is something which can be grasped, can be compared with other averages, can be dealt with as a unit factor in studying causes and effects.

It is some such reasoning as this which must justify the presentation in this chapter of averages descriptive of the foreign news content of American morning daily newspapers taken singly, in groups, and as a whole. These figures, it must be remembered, suffer not only under the disabilities of any average purporting to represent a complex universe of facts but they are also subject to additional qualifications because of the limited scope of the study and the nature of the sample employed. They are therefore to be taken only as

first approximations valuable less in themselves than as illustrations of the types of conclusions for which a small sample may be adequate. They may also be of value as a basis upon which to build concrete programs for further research.

THE FOREIGN NEWS POLICY OF THE PRESS AS A WHOLE

Since there are no comparable figures available for American evening newspapers or for newspapers of other countries the figure representing the average amount of foreign news printed daily per average American morning newspaper would not be of especial interest. It is the *proportion* of space which the press devotes to news from abroad which it is perhaps of some value to know and this figure, computed as the average of the percentages for the 40 individual newspapers each weighted by its own circulation as given in Table 1, is 5.15 per cent.[1] It would appear therefore that the average newspaper editor of an American morning daily is convinced that at least in peace times an increase beyond 5 or 6 per cent in the proportion of news space devoted to foreign dispatches will not pay its cost in terms of increased circulation. In Europe the situation is very different; there the reading public apparently demands news from neighboring countries in larger quantities and since national boundaries are nearer the average reader it can be obtained at smaller cost. The result in terms of newspaper policy is at least indicated by the very inadequate figures of Riis. For samples of five issues of five English, five German, and five French newspapers he obtained percentages of foreign news, respectively of 23, 30 and 35.[2]

[1] The procedure was to multiply the average percent Foreign news for each newspaper as obtained from Table 4 (p. 72) by the circulation as obtained from Table 1; the results of these forty multiplications were then totalled and divided by the total of the circulation represented in Table 1 to obtain the general newspaper average given.

[2] Riis, *op. cit.*, p. 112. Since Riis does not give the definition of his

Of the foreign news printed by the 40 newspapers in the sample 58.5 per cent was furnished by a single agency, the Associated Press. This organization is frequently, and perhaps justifiably attacked on the grounds of monopoly since its service is restricted to franchise-holding newspapers. As a cooperative news-gathering organization for its members, and they include 39 out of the 40 papers in this study, it has, however, greatly reduced the cost of foreign news dispatches to the individual paper. If an historical study should show, as would be expected, that the American papers are increasing both the amount and the proportion of space devoted to foreign news the growth of the Associated Press foreign service would be one at least of the important explanatory factors.

FOREIGN NEWS IN THE INDIVIDUAL NEWSPAPERS

Roughly speaking, we can view the amount of foreign news printed by a newspaper per day as an index of the impact of the paper upon that part of the public mind which is concerned with foreign affairs. The index is only an indirect one of course since at present there is no way of telling either the amount of this news which is actually read or its effect upon the stereotypes and attitudes of the reader. Ultimately, studies will be made which will throw light on these questions but meanwhile one can make a case for the utility of such an index on the grounds simply that foreign news *availability* is of importance in itself. For while intelligent opinions on public questions of foreign policy may or may not be formed in the presence of such knowledge of the facts

"Foreign news" category, it is dangerous to assume that his results for the European papers are even approximately comparable to those obtained for American papers in this study. His own figure for the 19 American papers included in his study was 7%; this, as being not too far different from our own 5.2%, tends however to lend some credence to his results from Europe.

as may be obtained from news stories it is hardly likely that they will be formed in the absence of such data. The least that may be said is that populations living in areas served by newspapers of low foreign news content are seriously handicapped in any effort that they make to become informed as to foreign affairs. And though it is quite possible that only the more intelligent individuals would ever make any such effort [1] potential leaders are forced to turn to the same newspapers as the masses in these days of news monopolies. A public uninformed and uninterested led by a few interested but uninformed appears the inevitable result where the press neglects foreign news for sports, comics, and the highly colored "human interest" novelties that are today so common a feature of the news columns.

Table 3 gives the average amount of space devoted daily to foreign news by each of our 40 newspapers. Even considering that only differences of 35 or 40 column centimeters are significant [2] it is evident that citizens of the various cities

[1] Hotchkiss and Franken (*cf.* footnote on p. 15) have some interesting data on what the intelligentsia does look for in the newspaper. Approximately 1900 readers of New York newspapers of which about 600 were business executives and professional men and the rest college students were asked to state on a questionnaire the five features of their paper which "interested them most". The results, compiled on the basis of five votes for a first choice, four for a second, etc., gave foreign news fifth place in the estimation of the business man with approximately 10% of the votes and sixth place and 6.3% for the college students. "General news", finance, editorials, and politics outranked foreign news among both groups while "sports" were also preferred by the collegians. It should be noted that when the foreign news percentages are corrected for the inclusion of non-news categories in the computation (editorials, cartoons, etc.) the result indicates a considerably greater proportionate interest in foreign news on the part of this selected group than is reflected in the actual policy of any morning New York newspaper. The ratio of apparent proportional demand for foreign news to the actual proportional supply (as indicated by the results of this study) is approximately as 2 to 1. The *New York Times* is of course an exception.

[2] *Cf. infra*, p. 91.

TABLE 3

MEAN AVERAGE AMOUNTS OF SPACE PER ISSUE DEVOTED TO FOREIGN NEWS BY FORTY NEWSPAPERS

Newspaper	*Mean Average Standard Column Centimeters of Foreign News Per Issue*	*Probable Error of Average*
1. New York Times	605.3	± 17.6
2. New York Herald-Tribune	334.2	± 14.4
3. New York World	210.6	± 10.7
4. Los Angeles Times	197.4	± 10.7
5. Baltimore Sun	195.5	± 14.2
6. Chicago Tribune	181.9	± 8.1
7. Philadelphia Public Ledger	178.0	± 7.0
8. Boston Herald	167.4	± 14.9
9. New York American	160.5	± 11.9
10. Philadelphia Inquirer	159.4	± 10.2
11. Cincinnati Enquirer	148.9	± 13.1
12. St. Louis Globe-Democrat	144.1	± 12.3
13. Detroit Free Press	142.0	± 9.7
14. San Francisco Chronicle	134.0	± 12.1
15. Rochester Democrat and Chronicle	129.3	± 12.6
16. Memphis Commercial-Appeal	121.8	± 15.5
17. Washington Post	121.2	± 8.9
18. Washington Herald	114.9	± 9.2
19. Atlanta Constitution	114.8	± 8.4
20. San Francisco Examiner	111.9	± 5.9
21. Boston Globe	107.5	± 11.0
22. Buffalo Courier	106.0	± 8.7
23. Los Angeles Examiner	104.0	± 6.6
24. Dallas News	97.3	± 8.4
25. Chicago Herald and Examiner	97.3	± 8.8
26. Cincinnati Commercial-Tribune	96.3	± 10.4
27. Portland Oregonian	96.2	± 6.5
28. Louisville Courier-Journal	88.0	± 11.6
29. Kansas City Times	86.4	± 9.8
30. Milwaukee Sentinel	84.3	± 7.1
31. Indianapolis Star	80.9	± 9.5
32. Kansas City Journal	76.5	± 7.0
33. Daily Oklahoman	75.7	± 9.2
34. Omaha World-Herald	75.4	± 7.1
35. Houston Post-Despatch	74.5	± 6.1
36. Des Moines Register	72.6	± 7.8
37. Cleveland Plain Dealer	71.4	± 8.6
38. St. Paul Pioneer-Press	62.7	± 8.2
39. Boston Post	61.1	± 6.0
40. Pittsburgh Post	57.5	± 6.7

of the United States are supplied with quite different average amounts of foreign news at their breakfast tables each morning. New Yorkers are fortunate in this regard with the *Times* and the *Herald-Tribune* in a class by themselves, and Philadelphians are not badly served. At the other end of the scale are the country's black spots, Cleveland and Pittsburg, where in each case a single newspaper monopolizes the morning field and provides its readers with only about a tenth as much foreign news as they could get from the pages of the *New York Times*. There is quite a list of middle western cities where morning papers carry less on the average than two columns (100 col. centimeters) of foreign news daily.

For the individual fortunate in living in or near a city where there is still a choice as to what paper to read on the way to the office the table gives some suggestions as to where to go for foreign news. In New York City the *Times* is pre-eminent, in Boston it is the *Herald,* in Chicago, the *Tribune,* in Los Angeles the *Times,* and in Cincinnati the *Enquirer*. For the other cities the small sample fails to guarantee that the indicated differences are significant (*cf* Table 7, p. 90) although the chances would all be in favor of choosing the *Chronicle* in San Francisco and the *Public Ledger* in Philadelphia.

If the " amount of news printed " is the best index of the impact of press on public the category "percentage" is equally the best measure available of the influence of the public on the press. A small percentage of news space devoted to articles from foreign sources may well be taken to indicate a judgment on the part of the newspaper proprietors that the public interest is directed elsewhere and that in the long run no net circulation gain will result from the devoting of proportionally more space to cable news. The relationship between public interest and newspaper policy, as has already

TABLE 4

AVERAGE PROPORTION OF NEWS SPACE IN AMERICAN MORNING NEWSPAPERS DEVOTED TO ARTICLES UNDER FOREIGN DATE LINES

	Average Per cent Foreign News	*Probable Error*
1. New York Times	8.95	± 0.38
2. Baltimore Sun	8.05	± 0.67
3. Chicago Tribune	7.92	± 0.55
4. Washington Post	7.26	± 0.84
5. New York Herald-Tribune	6.45	± 0.36
6. Washington Herald	6.12	± 0.57
7. New York World	5.89	± 0.30
8. Detroit Free Press	5.88	± 0.55
9. New York American	5.26	± 0.42
10. Atlanta Constitution	5.18	± 0.45
11. Kansas City Times	5.09	± 0.59
12. Memphis Commercial-Appeal	4.90	± 0.60
13. Kansas City Journal	4.87	± 0.46
14. Los Angeles Times	4.86	± 0.36
15. St. Louis Globe-Democrat	4.85	± 0.44
16. Louisville Courier-Journal	4.84	± 0.76
17. Philadelphia Inquirer	4.69	± 0.36
18. Chicago Herald and Examiner	4.61	± 0.41
19. Boston Herald	4.60	± 0.45
20. Philadelphia Public Ledger	4.50	± 0.20
21. Omaha World-Herald	4.46	± 0.56
22. Daily Oklahoman	4.29	± 0.57
23. Cincinnati Commercial-Tribune	4.26	± 0.50
24. Buffalo Courier	4.16	± 0.41
25. Dallas News	4.05	± 0.44
26. Milwaukee Sentinel	4.02	± 0.65
27. Cincinnati Enquirer	4.00	± 0.45
28. Rochester Democrat and Chronicle	3.97	± 0.44
29. Los Angeles Examiner	3.90	± 0.29
30. St. Paul Pioneer-Press	3.81	± 0.62
31. San Francisco Chronicle	3.80	± 0.36
32. San Francisco Examiner	3.72	± 0.22
33. Des Moines Register	3.68	± 0.60
34. Boston Globe	3.50	± 0.37
35. Portland Oregonian	3.50	± 0.57
36. Indianapolis Star	3.34	± 0.44
37. Houston Post-Despatch	3.30	± 0.54
38. Boston Post	3.09	± 0.36
39. Cleveland Plain Dealer	3.07	± 0.37
40. Pittsburgh Post	2.42	± 0.39

been noted previously, is not a direct one, but since it is at the economic root of the whole newspaper business it tends to become, at least when stated in such a form as to include comparative news costs, a relationship as direct as modern marketing technique can make it.

If the foreign news policy indices for the 40 newspapers which are presented in Table 4 can then be taken as in some measure reflecting public interest, or the lack of it, in foreign events, it is evident from even cursory inspection of the table that "circulation publics" are far from homogeneous on this matter. New York City readers of non-tabloid morning journals appear most cosmopolitan in interest and those who read the *Baltimore Sun* or the two newspapers in the national capital fall also in this class. In the middle-west the *Chicago Tribune's* foreign correspondence, belying the paper's generally insular editorial policy, occupies almost eight per cent of the space not devoted to editorials, feature articles, comic strips and cartoons. With a circulation of over 700,000 spread over the four surrounding states this testimony concerning the world outlook of many in that area is important. On the other hand the frequently alleged provincialism of New England is borne out by the low ranking on the list of the two Boston papers of largest circulation, the *Post* and the *Globe*,[1] while the position of the Cleveland, Pittsburg and Indianapolis papers is a general indication that their readers share the interest of Bostonians in affairs of purely domestic concern. As for the large group of journals intermediate between the two extremes just noted the unreliability of many of their position rankings in the table seems to

[1] Oswald Garrison Villard ("Boston — A Journalistic Poor Farm", *Nation*, 117: 109-111) quotes a story of General Taylor, a former editor of the *Globe*, that is in point. "Being informed one day by an excited employee of the alarming news that the *Boston Herald* had engaged another London correspondent, the General exclaimed: 'Then by God, we'll have to get another in South Boston'."

make further discussion concerning their readers' interests unfruitful. While the rankings at the top and bottom of the table are doubtless fairly stable a second sample would probably change around considerably the order of the papers now listed between, say the ninth and the thirty-fifth positions.

In addition to a discussion of the foreign news policies of individual newspapers there should be a consideration as a unit given to one particular group of journals in the sample. The string of newspapers under the ownership of Mr. William Randolph Hearst, the only examples of "chain-store" journalism which find representation in our study, are usually thought of as being homogeneous in type and as catering to the less intelligent elements in the population. What support do these generalizations derive from this study? With reference to homogeneity in foreign news policy one can find a clear answer in the fact that the six Hearst papers included in the study[1] are not bunched at any point in the distribution in Table 4 but are scattered fairly evenly over the ranking list. Three are in the first twenty and three in the second. Thus although there are no Hearst papers at either extreme the group as a whole shows little evidence of a single policy imposed from above; at least such a policy is tempered greatly in practice by the local editor's estimate of the demands of his own particular group of readers. Concerning the other statement as to the quality of the Hearst circulation the present study can have little to say. The only index here available is the policy on foreign news and this breaks down in part as a test of the readers' general social intelligence because of the interest of the English-speaking second generation immigrant of the cities in the affairs of his

[1] These papers are the *New York American, Washington Herald, Chicago Herald and Examiner, Milwaukee Sentinel, Los Angeles Examiner,* and *San Francisco Examiner.*

parents' homeland. However, it may be noted that in the four instances where Hearst morning papers have local competitors the Hearst journal lags behind the other in its percentage of foreign news. The general average for all six of the Hearst journals, weighted in accordance with circulation, is 4.51 per cent; the corresponding percentage for the 34 non-Hearst newspapers is 5.28.

REGIONAL DIFFERENCES IN FOREIGN NEWS PUBLICATIONS

While the forty newspapers in the study are widely distributed over the country it is doubtful whether totals derived through regional classification would have a great deal of significance. In the first place the number of newspapers in the sample is not large enough adequately to represent various regions and in the second, it is almost impossible to determine the actual geographical spread of the circulation of a given newspaper. With these limitations in mind one can, however, make one or two very general statements concerning regional distribution of foreign news publication which seem to follow from the results of this study.

The policy of Southern newspapers toward the printing of foreign news is of greater interest today in view of recent educational progress in that region. Six newspapers of the 40 are published south of the Mason-Dixon line and their (combined) weighted average per cent foreign news per issue is 4.49. The difference between this figure and 5.15 per cent, the average for the country as a whole, is probably statistically reliable but not of great importance. The difficulty in the South, insofar as may be judged by our meagre data, appears to be that the average newspaper circulation is too small to carry the expense of a large foreign correspondence. Four of the six Southern papers are below the median value (Table 3) for the number of column centimeters of foreign news printed daily and the other two papers are just over it.

The *Memphis Commercial-Appeal* is the leader in this regard of the Southern group.

It might be expected that the public in and near seaboard cities would be more interested in news from abroad than would groups in the interior of the country. The results from attempting to test this hypothesis are given in Tables 8 and 12.[1] The averages for the seventeen newspapers.[2] published in the cities along the Atlantic and Pacific Coast are compared with those for the twenty-three other papers and the differences both in the amounts and in the percentages of foreign news are found to be statistically significant. In order to see whether this difference was due wholly to the effect of the cosmopolite New York City papers the averages for the seaboard group were recomputed, omitting the four papers from New York City. The result was greatly to decrease the apparent seaboard-inland differences, and in the case of the percentage figures the resulting difference was non-significant.

RELATIONSHIP BETWEEN NEWSPAPER CIRCULATION AND THE PUBLISHING OF FOREIGN NEWS

It was implied in discussion in a preceding paragraph that the newspapers with relatively small circulation printed less foreign news than those with a very large number of readers in part at least because they could not afford to pay the price of correspondence.[3] Our data can be used to supply a form

[1] *Cf.* pp. 90, 98.

[2] The seaboard group included the three Boston papers, the two from Philadelphia, Washington, Los Angeles, and San Francisco, the *Baltimore Sun*, and the *Portland Oregonian*. The New York City newspapers were included in one of the seaboard groupings and excluded in the other (*cf.* Table 8). All other papers were treated as "inland".

[3] The importance of this generalization lies in the fact that, while a smaller amount of space will be required adequately to cover *local* happenings in a city of relatively small population than in a large metropolis, readers in both places have an equal need for a given number of columns of *foreign* news.

of check to this assertion, for with the circulation figures and the foreign news averages available for 40 newspapers any marked tendency for the papers of large circulation to indulge in proportionately large amounts of foreign-news printing should be evident upon comparison of Tables 1 and 3. With as many as 40 separate instances to consider, however, comparison in parallel tables is likely to be somewhat confusing and in such a case the use of the correlation coefficient is indicated. Accordingly, the Pearsonian coefficient, r, for the two variables (1) circulation, and (2) mean average standardized column centimeters of foreign news per issue, was calculated for the results based on the 40 newspapers and found to be $r = 0.356 \pm 0.094$. This figure is not only on the border line of significance but is also too low to indicate much relationship between the variables. A second coefficient, calculated for circulation and the foreign news *not* originating with the Associated Press, was somewhat larger: $r = 0.425 \pm 0.087$. The cost of maintaining one's own foreign correspondent or of subscribing to some less well organized foreign news service than the Associated Press would of course average more per word than that for Associated Press despatches.

The fact that our two-variable correlations give but small support to the original generalization concerning the relationship between size of newspaper circulation and the content of foreign news of course in no way invalidates it as an hypothesis. It is to be expected that other factors such as the distance from news-distributing centers in the Associated Press network, the *quality* of the circulation to which the paper caters, the particular bias of the editor, and his estimate of the interests of the people in his community, will all share with the factor of relative cost in the determining of foreign news policy. Since the relative effects of these other factors can probably not be measured through any technique of controlled

grouping of newspapers the only valid *statistical* mode of attack on the problem would appear to be through the use of partial correlation procedure. This, however, requires a quantitative description of the variables which is at least not now possible in every case; consequently support for the original generalization with respect to the effect of size of circulation upon foreign news content must rest, as is so often the case in the social sciences, simply upon the expressed opinions of experts. In this instance the experts would be the newspaper editors themselves. A poll of their opinions on the determining factors in news policy would, however, be outside the scope of this purely descriptive study of newspaper content. The purpose of the present paragraph has simply been to illustrate the difficulties in getting a scientific description of the processes which produce that content.

CHAPTER V

Methodological Conclusions From the Results of the Study

We are now ready to discuss the bearings of the results of the study upon the points of methodology raised at the beginning of Chapter III. It will be remembered that the first and most important of these questions of method and the one upon which the study was especially planned so as to throw light was that of determining the magnitude of the errors due to sampling. How many issues of a given newspaper, it was asked, must be measured if the resulting average representing the paper's news policy is to remain stable and not fluctuate widely when succeeding samples are drawn. As a form of preliminary answer to that query the present study was designed to present a more or less typical sampling situation in the hope that conclusions drawn concerning the adequacy of the sample in this instance would cast some light upon the general problem. The first step in our procedure should therefore be the reporting of conclusions concerning the degree of reliability to be expected of averages computed from our 18-issue samples and this should be followed by a discussion of the implications of this data for general quantitative newspaper research. Before proceeding with this program, however, it seems advisable to interpolate a section outlining briefly the general statistical theory involved in the determination of the reliability of averages and the particular technique employed in the more or less special and unusual case constituted by the present research. Those who are familiar with the error theory originally developed by the

British statistician " Student " will find little that is new in the discussion which immediately follows. The applications of the " Student " method to sociological data are infrequent, however, and it seems advisable therefore to describe its use in this particular case in some detail.

THE METHOD USED IN DETERMINING THE ADEQUACY OF THE SAMPLE

Theoretically the universe for any variable (or system of variables) may be expressed by the curve (or system of curves) of a frequency distribution. Theoretically also the values of the arithmetic means of a successive series of samples drawn from the universe under the conditions of random (simple) sampling can also be constituted as a frequency distribution with the true mean of the universe as the mean of the distribution. The resulting curve of means will be symmetrical around this true mean and of the so-called Gaussian or normal type. Now since the Gaussian curve is one with whose properties we are familiar we can use it to predict the results of future samplings of the universe, obtaining an expression for the chances that the mean of a given sample will lie within any assigned range. Ordinarily, however, one wishes to know how wide the fluctuation will be for a given probability and here the constant known as the *probable error* is most frequently employed. It measures, as is well known, the amount of deviation from the true value of a frequency constant which would be exceeded by just 50 per cent of the values obtained from successive random samples of equal size. Since the formulas for computing the probable errors of the various frequency constants include an inverse function of n, the number of cases in the sample, the probable error may be used to decide in any individual case, whether the sample was adequate or not and, somewhat more indirectly, to predict the size of

sample which would be adequate to assure a given accuracy of representation. If we can secure probable error coefficients in this study, then, we will have at hand a means of dealing with our problem of sampling adequacy.

It has just been stated that the probable error of the mean of a sample is measured in terms of the deviation of that mean from the true mean of the universe, or, to put the matter in slightly different terms, the formula used in computing the probable error of the mean of the sample is based on a knowledge of the true standard deviation of the universe. In this, however, as in most practical research problems, we have no information as to the nature of the universe other than that derived from the examination of an unique sample. Under these circumstances the usual procedure is to substitute the value of the standard deviation (s) obtained from the sample in the place of the true value (σ) in the probable error formula and use in place of n the expression n—1.[1] This procedure is based on the assumption that s is a normally distributed variate and that therefore the most probable, i.e. the mean value of s will coincide with the true value σ. The substitution of s for σ is under these circumstances the best available approximation, as is also the probable error coefficient which results.

But is the assumption of the normal distribution of values of s a justifiable one? As the result of the work of "Student" and of Karl Pearson[2] we know that at least for samples where n is small it is not. Pearson found the frequency distributions of s obtained from successive samples

[1] The formula then becomes

$$\text{P. E.} = \frac{.6745\, s}{\sqrt{n-1}}.$$

[2] *Cf.* "Student", "The Probable Error of a Mean", *Biometrika*, 6: 1-25; and Pearson, Karl, "On the Distribution of the Standard Deviations of Small Samples", *Biometrika*, 10: 522-529.

of size n were clearly asymmetrical for the smaller samples but tended toward normality as n increased. At about $n = 25$ the error involved in assuming the normal distribution of s became negligible for "the majority of statistical problems". We have to deal with a sample of only 18 in this study, however, and hence are forced to find some other way of securing the probable errors than that just outlined or else develop a correction factor which may be applied to the original formula to take account of the lack of normality in the distribution of s.

A possible way out of this dilemma has been provided by "Student" who in 1906[1] developed the equation for the frequency distribution of the ratio $\bar{x}/s$ where $\bar{x}$ represents the deviation of the means of sucessive samples from the true mean of the population and s is the standard deviation of these samples. Tables giving the area under this curve between $-\infty$ and any given ordinate, $z_1 \left[= \frac{x_1}{s_1} \right]$, have since been provided for values of n from 4 to 30 and from them one can determine for any given probability (0.5 in order to get the probable error) what will be the associated range for the variation of means of future samples around the mean of the original unique sample.

"Student", *ibid.* In the further development of the method there originally outlined the following articles are important: "Student", "New Tables for Testing the Significance of Observations", *Metron*, vol. v, no. 3, pp. 105-111; "Student", "Tables for estimating the probability that the mean of a unique sample of observations lies between $-\infty$ and any given distance of the mean of the population from which the sample is drawn", *Biometrika*, 11: 414-417; Fisher, R. A., "Applications of 'Student's' Distribution", *Metron*, vol. v, no. 3, pp. 90-111; Shewhart, W. A. and Winters, F. W., "Small Samples—New Experimental Results", *Journal of the American Statistical Assn.*, 23: 144-153; "Sophister", "Discussion of Small Samples Drawn from an Infinite Skew Population", *Biometrika*, 20A: 389-428. For a more elementary exposition of "Student's" method see Shewhart, W. A., "Correction of Data for Errors in Averages", *Bell System Technical Journal*, 5: 308-319.

"Student's" theory, however, is based upon three important assumptions. These are (1) that the frequency distribution of the means of the samples is a normal one, (2) that the means and standard deviations of the samples are independent of each other, and (3) that the standard deviations are distributed according to the law developed in Student's paper in 1906. Do our data in this study meet these conditions? It has been demonstrated that for all practical purposes the first assumption, that the means of samples be distributed normally, is true, even when n is small, for all cases where the original universe is not extremely skew in character.[1] The two other conditions, however, hold good not for a moderately skew universe but only when the universe is strictly normal[2] and in this study while we may have every reason to expect normality of distribution[3] there is no way of demonstrating satisfactorily

[1] This question has been investigated by A. E. R. Church (*Biometrika*, 18: 321-394) who finds that:

> "Even when the sampled population is very skew and as small as 36 the distribution of means of samples still shows a very strong tendency to normality. In fact it appears that the assumption of the normality of this distribution is justified no matter what the size of the sampled population or the sample, and no matter upon which basis [i. e. from a finite or an infinite universe] the sampling process is conducted. It is only likely to fail as a practical hypothesis if the sampled population follows a really extreme form of skewness" p. 393).

[2] With respect to the second assumption J. Neyman has shown that s^2 and x are correlated in every case except where the sample is drawn from an infinite and normally distributed population. *Cf.* Neyman, J., "On the Correlation of the Mean and the Variance in Samples Drawn from an 'Infinite' Population", *Biometrika*, 18: 401-413.

[3] Because of the apparently complex nature of the variable being measured. However the condition would not be met exactly even were the normality of the universe established. In this study as in nearly all practical statistical research problems the sampling procedure is such as

from an unique sample of 18 cases that such is actually the case. This leaves us with the question as to the magnitude of errors which will result from the persistent use of Student's integral for z when the universe is finite and, as may well be possible, moderately skew. No theoretical answer is yet available on this point [1] and conclusions can only be drawn from empirical data such as that of Shewhart and Winters [2] and of "Sophister".[3] Their studies indicate that even with a considerable skewness of the sampled population the Student integral gives a closer approximation to the true probable error of the mean of a small sample than does the customary theory [4] and that when a finite population does not greatly fall short of normality this approximation to the true value of the P. E. may be very close. If the distribution is a badly skewed one, however, the evidence indicates that the range (measured in terms of z) associated with a given probability is too small even when derived by the Student integral. The adoption of the Student formula in this study as the best available approximation is therefore made with the clear realization that the probable errors obtained thereby, if taken literally, may lead to over-optimistic conclusions as to the efficacy of the sample of 18. The probability that the distribution with which we are dealing is not

to make the sampled population clearly finite. There will, therefore, be correlation between s^2 and x on this account alone whatever the form of the population distribution.

[1] "Sophister" and Karl Pearson have devised an approximate equation for the distribution of z in a skewed population (*Biometrika*, 20A: 413 421) but its use in any practical case depends upon a knowledge of certain population constants not available from an unique sample.

[2] *Journal of the American Statistical Assn.*, 23: 144-153.

[3] *Op. cit.*

[4] This is true even when the normal curve for $\frac{s}{\sqrt{n-3}}$ is used. See the comparative tables in *Biometrika*, 11: 417.

far from normal would seem, however, to justify at least conservative inferences concerning sample adequacy made on the basis of P. E.'s so obtained. Such inferences are drawn in the later course of the discussion.

In the actual application of the Student formula the Table IV in R. A. Fisher's *Statistical Methods for Research Workers*[1] was used. This table gives relations between three variables, t, n, and p. The first of these, t, is simply the "Student" $z\left(=\frac{\bar{x}}{s}\right)$ multiplied by the quantity $\sqrt{n'}$ where $n' = n + 1$. The second symbol, n, represents what Fisher calls "the number of degrees of freedom available for estimating t from s;" the third, p, is the proportion of the area under "Student's" integral which will be included in a range $\pm t$ measured from the mean of the distribution. It may be remembered that s is the standard deviation of an unique sample of n' cases when n' is small.

In the particular instance represented by this study Fisher's table is entered with $n = 18 - 1 = 17$ and $p = 0.5$ and the corresponding value of t is found to be 0.689. Now by solving in the equation

$$t = \frac{x}{s}\sqrt{n'} \qquad (1)$$

for x, which in this case will be one-half the range subtended by one-half the cases in the distribution we find that

$$x_1 = \frac{st}{\sqrt{n'}} = 0.1624\ s. \qquad (2)$$

But it will be readily recognized that x is also the probable error of the mean of the unique sample n whose standard deviation may be easily computed. Consequently we have a

[1] Oliver & Boyd, Edinburgh, 1925.

simple formula for computing the desired probable errors of the means of our 18-issue newspaper distributions.[1] These P. E.'s were given in Tables 3 and 4.[2]

A newspaper content average has, however, little value as an absolute figure; it derives its meaning largely in relation to similar averages for other newspapers. What we are really interested in, therefore, is not so much the probable errors of the averages themselves as the significance of the difference between those averages. A convenient test of significance of differences between arithmetic means is to see whether the actual difference exceeds three times its own probable error. Another way of stating the matter which amounts to approximately the same thing in the end is to consider as significant any difference where the probability is greater than 0.95 that another pair of similarly constructed samples would not yield a difference with the opposite sign. In other words, within the limits of the error theory itself, at least 19 out of 20 of succeeding pairs of samples must yield a real, positive difference in their averages if this latter criterion is to be fulfilled.

There are two methods of comparing the averages of distributions obtained from small samples. One, developed by R. A. Fisher,[3] is a modification of the usual procedure of obtaining the probable error of a difference by taking the quadratic mean of the probable errors of the two averages. The other, used by "Student" himself,[4] depends for its applicability on the two samples being of the same size with

[1] This formula may be compared with the following one based on the conventional error theory:

$$PE = \frac{0.6745\ s}{\sqrt{n'}} = 0.1589\ s.$$

[2] *Cf. supra*, pp. 70, 72.

[3] R. A. Fisher, *ibid.*, pp. 106-114.

[4] *Biometrika*, 6:20.

individual cases in one sample corresponding in some particular with individual cases in the other. The method of Fisher ordinarily has the advantage even when both are applicable because when using it one enters the table just referred to with n approximately twice as large as in the Student method. A positive correlation between individual cases in the two samples may sometimes, however, so reduce the standard deviation of the differences between corresponding cases as to give a smaller probable error from the "Student" method even with a smaller n. This is exactly the situation in the present study, for the number of important happenings abroad in any twenty-four hour period appears as a common factor in the amounts of foreign news printed by the various newspapers on that day. The "Student" method was accordingly adopted in preference to that of Fisher for computing the probable errors of the differences in foreign news content between different newspapers on the list of 40. The procedure consisted in finding the standard deviation (s_d) of the differences between corresponding issues of the newspapers being compared, and then computing the probable error ($0.1624 s_d$ when $n' = 18$) as described in a preceding paragraph.

CONCLUSIONS AS TO THE ADEQUACY OF THE SAMPLE

We are now ready to discuss the adequacy of our sample of 18 issues. Let us consider this question first as related to the significance of the observed differences between newspapers in the average number of standardized column centimeters of foreign news printed daily. Table 5 gives the values of the probable error of these differences as between each of the four New York City papers and gives also the values in each case of a quantity P, defined as the probability that a second sampling would not result in a negative or a zero difference instead of one of the same sign as that found

TABLE 5

SIGNIFICANCE OF DIFFERENCES BETWEEN NEW YORK CITY NEWSPAPERS IN MEAN AVERAGE STANDARDIZED COLUMN CENTIMETERS OF FOREIGN NEWS PER ISSUE

Newspaper	*Average Std. Col. Cm. Foreign News Per Issue*	*Newspaper*	*Average Std. Col. Cm. Foreign News Per Issue*	*Difference between Newspapers Std. Col. Cm.*	*Probable Error of Difference*	*Difference ÷ Probable Error*	*P**
Times	605.3 ± 17.6	Herald-Tribune	334.2 ± 14.4	271.2	± 11.8	23.0	1.000
Times	605.3 ± 17.6	World	210.6 ± 10.7	394.7	± 13.5	29.2	1.000
Times	605.3 ± 17.6	American	160.5 ± 11.9	444.8	± 15.8	28.1	1.000
Herald-Tribune	334.2 ± 14.4	World	210.6 ± 10.7	123.6	± 14.8	8.3	1.000
Herald-Tribune	334.2 ± 14.4	American	160.5 ± 11.9	173.7	± 18.3	9.5	1.000
World	210.6 ± 10.7	American	160.5 ± 11.9	50.1	± 12.9	3.9	0.992

TABLE 6

SIGNIFICANCE OF DIFFERENCES BETWEEN BOSTON NEWSPAPERS IN MEAN AVERAGE STANDARDIZED COLUMN CENTIMETERS OF FOREIGN NEWS PER ISSUE

Newspaper	*Average Std. Col. Cm. Foreign News Per Issue*	*Newspaper*	*Average Std. Col. Cm. Foreign News Per Issue*	*Difference between Newspapers Std. Col. Cm.*	*Probable Error of Difference*	*Difference ÷ Probable Error*	*P**
Herald	167.4 ± 14.9	Globe	107.5 ± 11.0	59.9	11.1	5.4	0.999
Herald	167.4 ± 14.9	Post	61.1 ± 6.0	106.4	12.9	8.3	1.000
Globe	107.5 ± 11.0	Post	61.1 ± 6.0	46.6	8.1	5.8	0.999

* For explanation of this symbol see page 87 in the text.

in the sample upon which the computations are based.[1] Tables 6, 7 and 8 give the same information for the three Boston newspapers, for a number of other competitors in other cities, and for a dichotomous regional grouping of seaboard and inland papers.[2]

One can take as a test of significance either Fisher's criterion $P = 0.95$ or else the slightly more conservative prescription that the difference must exceed three times its own probable error. An examination of the tables reveals that all the differences between individual newspapers meet both of these tests except those between newspapers in Kansas City, Philadelphia, Washington and San Francisco. This is interesting as giving some information on the degrees of discrimination possible with a sample of 18 issues. In order, however, to state these facts concerning the limits of accuracy of the present study in a form suitable for use in planning future research we need a figure representing the size of that difference between newspapers in the average amount of foreign news per issue which is at the general *border line of significance*. Such a figure will only be an average since the coefficients of day-to-day variability in foreign news space will differ from newspaper to newspaper but it will serve to give some general and easily understandable summary picture of the situation with respect to accuracy and adequacy. Assuming that the magnitudes of the probable errors set forth in Tables 5, 6 and 7 are generally representative of those others which are uncomputed[3] one

[1] In determining the value of P in given cases the table in *Metron*, vol. v, no. 3, pp. 114-117 was employed.

[2] For the makeup of these two groups see footnote 2, page 76.

[3] In a table of 40 newspapers there will be 780 possible differences between individual papers. To compute probable errors for all these differences would involve a great and unnecessary amount of labor. For the more or less rough conclusions that can be drawn from a study as limited as this one the 16 probable errors which *are* computed should amply suffice.

TABLE 7

SIGNIFICANCE OF DIFFERENCES BETWEEN VARIOUS COMPETING NEWSPAPERS IN MEAN AVERAGE STANDARDIZED COLUMN CENTIMETERS OF FOREIGN NEWS PER ISSUE

Newspaper	*Average Std. Col. Cm. Foreign News Per Issue*	*Newspaper*	*Average Std. Col. Cm. Foreign News Per Issue*	*Difference between Newspapers Std. Col. Cm.*	*Probable Error of Difference*	*Difference ÷ Probable Error*	*P**
Chicago Tribune	181.9 ± 8.1	Chicago Herald and Examiner	97.3 ± 8.8	84.8	7.3	11.6	1.000
Cincinnati Enquirer..	148.9 ± 13.1	Cincinnati Commercial-Tribune	96.3 ± 10.4	52.6	9.5	5.5	0.999
Kansas City Times...	86.5 ± 9.8	Kansas City Journal	76.5 ± 7.0	10.0	6.7	1.5	0.838
Los Angeles Times ..	197.4 ± 10.7	Los Angeles Examiner...	104.0 ± 6.6	93.6	9.4	10.0	1.000
Philadelphia Public Ledger	178.0 ± 7.0	Philadelphia Inquirer ...	159.4 ± 10.2	18.6	9.4	2.0	0.905
San Francisco Chronicle	134.0 ± 12.1	San Francisco Examiner.	111.9 ± 5.9	22.1	8.8	2.5	0.950
Washington Post	121.2 ± 8.9	Washington Herald	114.9 ± 9.2	6.2	8.9	0.7	0.68

TABLE 8

SIGNIFICANCE OF DIFFERENCES BETWEEN GROUPS OF "SEABOARD" AND "INLAND" NEWSPAPERS IN MEAN AVERAGE UNCORRECTED COLUMN CENTIMETERS OF FOREIGN NEWS PER ISSUE PER NEWSPAPER

Composition of "Seaboard" Group of Newspapers	*Average for "Seaboard" Papers. Uncorrected Col. Cm. per Issue per Newspaper*	*Average for 23 "Inland" Papers. Uncorrected Col. Cm. per Issue per Newspaper*	*Difference between "Seaboard" and "Inland" Average*	*Probable Error of Difference*	*Difference ÷ Probable Error*	*P**
17 Seaboard papers ..... (including four from New York City)	183.9	103.5	80.4	2.3	35.0	1.000
13 Seaboard papers ..... (excluding New York City)	139.7	103.5	36.2	2.6	13.9	1.000

* For explanation of this symbol see page 87 in the text.

can from mere inspection of these tabulated values make an estimate of the approximate minimum difference that will prove on the average reliable. Such an estimate, made well on the side of conservatism, is the figure 35 standardized column centimeters (of foreign news) per issue. This accuracy limit can be given more concrete meaning by relating it to the range in the list of 40 newspapers of their average amounts of foreign news per issue. Reference to Table 3 shows that the *New York Times,* the first newspaper on the list, prints on the average 605 column centimeters of foreign news daily while the *Pittsburgh Post,* in the lowest position, prints 58 column centimeters. The *range* for the 40 newspapers is therefore from 58 to 605 or approximately 550 column centimeters. One can therefore say that a sample of 18 issues gives results of sufficient accuracy to divide the list of 40 newspapers into 550/35 or approximately 15 groups.

The preceding paragraph applies to differences between individual newspapers in the average space devoted to foreign news. When we are dealing with regional averages, i.e. groups of newspapers, the relative day-to-day variability in the composite sample of 18 days of issue is considerably decreased with the consequence that probable errors are smaller and smaller differences become significant. Table 8 gives little information as to where the border line would fall in such a case since the smaller of the two differences whose significance is there tested is 36 standardized column centimeters per issue. Probably, however, with ten or more papers in each of the groups compared one could count on the significance of a difference as low as 15.

In addition to differences between papers in the actual space devoted to foreign news it is frequently desirable to compare them in terms of the *proportion* of space so devoted, or, in

other words, in terms of the ratio between foreign news space and the space in the control category "Total news". This ratio, expressed as a percentage, may be thought of as an index of the given newspaper's "policy" toward the treatment of news from abroad, a policy however not to be thought of as existing in any single mind or as generalizing any single individual's, such as the editor's, behavior. The index, on the contrary, will be a generalization of the behavior of a great many people since it is merely a statistical statement of a result born of a complex set of causes, causes which include not only deliberate aim on the part of the newspaper staff but also geographical, temporal, mechanical, psychological and other factors impossible to describe, predict, or control.[1] The meaning of the index may, however, be left for future discussion; the problem here is one of ascertaining the reliability of differences between newspapers measured in terms of this index and based on a sample of 18 issues.

In order to apply the probable error concept in this problem it is necessary to use the index in the form of an average of the 18 values of the ratio *foreign news/total news* obtained from and separately computed for each of the 18 issues in the sample. This averaging of percentages, instead of computing the index for a given newspaper directly from the totals for the 18 issues lumped together, is an instance of what is ordinarily viewed as a statistical proceeding of doubtful validity for it weights each unit in the sample equally instead of in proportion to its actual size. Wholly apart from its advantages in connection with probable error formulas, however, the averaging of the 18 percentages is clearly justified in this instance. We are measuring an "editorial policy" applied each day in a novel situation with a different

[1] Lippmann describes some of these factors molding newspaper content under the more general head of "Approaches to the World Outside". *Cf. Public Opinion*, Parts II and III.

amount of space to fill and a different group of varied types of news stories to fill it. Since each daily issue thus represents to the editors a separate problem in space allocation it should be treated as a separate unit by us, especially since any holdover effects that may exist from one day to another are eliminated in this study by the eight-day minimum sampling interval.

Granting the contention in regard to the averaging of the 18 individual ratio-percentages the procedure for determining probable errors of the differences between these averages becomes identical with that described above in relation to the comparisons of average foreign news space. The results from computing these probable errors for a few of the many possible pairings of the 40 newspapers are given in Tables 9, 10 and 11. Inspection of these tables shows immediately that the percentage index is a much less stable variable than the simple total of news space; consequently the limits of statistical significance of differences will also be less for the former than for the latter measure. Add to this the probability of greater skewing in the percentage distributions, which would indicate more conservatism in reasoning from probable error to reliability, and it will be apparent that the precision accuracy of the 18-issue sample cannot be high. Actually the border line of significance, estimated again only from the few values given in the Tables and using the more conservative criterion $P = 0.97$, appears to be at about 1.3 per cent. Since the range in the 40 newspapers for the percentage index of foreign news is only 8.95 — 2.42 [1] or about 6.5 per cent the 18-issue sample suffices in this case only for five-fold classification as against a possibility of a reliable 15-class distribution of the papers with respect to actual foreign news space. A similar comparison of averages of the

[1] *Cf.* Table 4, p. 72.

TABLE 9

SIGNIFICANCE OF DIFFERENCES BETWEEN NEW YORK CITY NEWSPAPERS IN THE AVERAGE PROPORTION OF NEWS SPACE DEVOTED TO ARTICLES OF FOREIGN ORIGIN

Newspaper	*Average Per cent Foreign News**	*Newspaper*	*Average Per cent Foreign News**	*Difference between Newspapers in Per cent Foreign News*	*Probable Error of Difference*	*Difference ÷ Probable Error*	*P†*
Times	8.95 ± 0.38	Herald-Tribune	6.45 ± 0.36	2.50	0.23	10.9	1.000
Times	8.95 ± 0.38	World	5.89 ± 0.30	3.06	0.29	10.6	1.000
Times	8.95 ± 0.38	American	5.26 ± 0.42	3.69	0.34	10.9	1.000
Herald-Tribune	6.45 ± 0.36	World	5.89 ± 0.30	0.56	0.34	1.6	0.864
Herald-Tribune	6.45 ± 0.36	American	5.26 ± 0.42	1.19	0.43	2.8	0.964
World	5.89 ± 0.30	American	5.26 ± 0.42	0.63	0.38	1.7	0.864

TABLE 10

SIGNIFICANCE OF DIFFERENCES BETWEEN BOSTON NEWSPAPERS IN THE AVERAGE PROPORTION OF NEWS SPACE DEVOTED TO ARTICLES OF FOREIGN ORIGIN

Newspaper	*Average Per cent Foreign News**	*Newspaper*	*Average Per cent Foreign News**	*Difference between Newspapers in Per cent Foreign News*	*Probable Error of Difference*	*Difference ÷ Probable Error*	*P†*
Herald	4.60 ± 0.45	Globe	3.50 ± 0.37	1.10	0.29	3.8	0.991
Herald	4.60 ± 0.45	Post	3.09 ± 0.36	1.51	0.36	4.2	0.995
Globe	3.50 ± 0.37	Post	3.09 ± 0.36	0.41	0.26	1.6	0.853

* Mean average of 18 values of percent of Foreign News derived from the 18 issues in the sample.

† For explanation of this symbol see page 87 in the text.

two types based on newspaper groupings yields no essentially different results. Reference to Table 12 [1] indicates the probability of significance of a difference of 0.5 per cent for 10 paper groupings with n' for each paper equalling 18. This is a relatively larger figure than was obtained with the measure of gross space.

Even with all the above data bearing on the reliability of indicated differences before us it is of course impossible to give a categorical answer to the question "Is the sample adequate?" Undoubtedly it is adequate for the drawing of some conclusions, and these were set forth in the preceding chapter. Certainly also it is inadequate for many other purposes since fine discriminations between papers have been shown to be unreliable. We are not so much interested at this point, however, in what have been called the "sociological" conclusions which follow from the study but rather in the light which our experiences with this sample may throw upon sampling problems in future studies. The illumination cast by such a severely limited piece of research cannot be great but it does possess the character of uniqueness [2] and hence can perhaps justifiably be offered simply for what it is worth.

SAMPLING IN FUTURE STUDIES

Turning first to the measure of actual column centimeters of news space, one may say that for such a relatively objective category as news from abroad a small sample appears to give results of precision accuracy sufficient for many practical purposes. Two provisos must of course be noted in extending this conclusion to other studies, one that the categories

[1] *Cf.* p. 98.

[2] Willey's day-to-day totals are not available and neither are those of Garth nor Wilcox. Neprash has not published his original data but his sample included only 5 issues.

TABLE 11

SIGNIFICANCE OF DIFFERENCES BETWEEN VARIOUS COMPETING NEWSPAPERS IN THE AVERAGE PROPORTION OF NEWS SPACE DEVOTED TO ITEMS OF FOREIGN ORIGIN

Newspaper	*Average Per cent Foreign News* *	*Newspaper*	*Average Per cent Foreign News* *	*Difference between Newspapers in Per cent Foreign News*	*Probable Error of Difference*	*Difference ÷ Probable Error*	*P* †
Chicago Tribune ..	7.92. ± 0.55	Chicago Herald and Examiner	4.61 ± 0.41	3.31	0.45	7.4	1.000
Cincinnati Com'l-Tribune	4.26 ± 0.50	Cincinnati Enquirer	4.00 ± 0.45	0.27	0.59	0.5	0.716
Kansas City Times	5.09 ± 0.59	Kansas City Journal	4.87 ± 0.46	0.22	0.35	0.6	0.66
Los Angeles Times	4.86 ± 0.36	Los Angeles Examiner	3.90 ± 0.29	0.96	0.25	3.8	0.991
Philadelphia Inquirer	4.69 ± 0.30	Philadelphia Public Ledger	4.50 ± 0.20	0.19	0.24	0.8	0.703
San Francisco Chronicle	3.80 ± 0.36	San Francisco Examiner	3.72 ± 0.22	0.08	0.27	0.3	0.58
Washington Post..	7.26 ± 0.84	Washington Herald	6.12 ± 0.57	1.14	0.52	2.2	0.931

* Mean average of 18 values of per cent of Foreign News derived from the 18 issues in the sample.

† For explanation of this symbol see page 87 in the text.

under investigation must be objective enough to have the same approximate meaning for the investigator and his readers, and the other that day-to-day variability in these categories must not be much greater than that already found for foreign news. If these qualifications are accepted, however, it would seem safe to say that the practicability of other research even by the single investigator is at the very least indicated by the results of reliability testing described above. A comparison of the financial, political, sporting or society news content of a group of local newspapers could probably be made in a majority of cases with a sample from each paper of 30 or 35 issues. An historical content index for a given newspaper based on say four or five issues a month would appear equally feasible if the compared periods were two or three years apart. Many other studies in which only a single category is involved could doubtless also be made with samples under thirty issues but there would be many cases also where even single-category studies would require large samples and consequently a research staff and a subsidy. On the other hand as to samples smaller than that of the present study one must conclude unfavorably. When the number of issues in a unique sample is decreased below 18 the errors of sampling increase rapidly and out of proportion to the decrease in n'; the statement made by earlier investigators that a week is an adequate period for sampling seems to be, therefore, definitely ruled out.

One can predict, however, that the method of Tenney and Willey will be used, if at all, much more often to obtain differences between category ratios than between the quantities of news in a single category. An investigator may measure newspapers for the purpose of describing their policies with respect to the printing of sporting news, of news about the League of Nations, of news emanating from a given political publicity bureau, of " anti-social " news, etc. but in each case

TABLE 12

SIGNIFICANCE OF DIFFERENCES BETWEEN GROUPS OF "SEABOARD" AND "INLAND" NEWSPAPERS IN THE AVERAGE PROPORTION OF NEWS SPACE DEVOTED TO ITEMS OF FOREIGN ORIGIN

"Seaboard" Newspapers		23 "Inland" Newspapers Per cent Foreign News *	Difference between "Seaboard" and "Inland" groups	Probable Error of Difference	Difference ÷ Probable Error	P †
Composition of "Seaboard" group of papers	Per cent Foreign News * of "Seaboard" papers					
17 papers (including 4 from New York City)	5.38	4.32	1.06	0.14	7.6	1.000
13 papers (excluding New York City papers)	4.61	4.32	0.29	0.15	1.9	0.896

* Mean average of 18 values of per cent Foreign News derived from the 18 days of issue in the sample. The figure for each one of the 18 days was the result of dividing the total amount of Foreign News in all the papers of the group on that day by the corresponding total for the category "Total News".

† For explanation of this symbol see page 87 in the text.

he is likely to be primarily interested in the *proportion* of space devoted to the category in question and his interest in the *amount* of such space will be only secondary. But on the question as to the size of sample necessary to give significance to indicated differences in category *ratios* our study gives rise to more limited and at the same time more pessimistic conclusions. Comparative examination of Tables 5, 6, 7, 8, and 9, 10, 11, and 12 shows that in nearly every case probable errors of differences between newspapers expressed in terms of foreign news/total news ratios were relatively larger than when comparison was made in terms simply of average column centimeters of foreign news space. This indicates a definitely greater instability in category-ratio averages which, if the results of the study are typical of what may be expected generally, implies in turn the necessity for larger samples when it is "policy" and not simply "space content" that is to be measured.

How large must these "larger samples" actually be? As a concrete illustration, albeit a rough one, of what the newspaper analyst is up against we can ask ourselves how large a sample would in all probability have been necessary in order to secure the same degree of reliable accuracy for foreign news *ratio* comparisons that was actually obtained with an 18-issue sample for simple foreign news space averages. If the 40 papers could be divided into fifteen significantly different groups with respect to their foreign news policy percentages the "accuracy of sampling" would then be about the same as was obtained for foreign news space. If the 40 papers could be divided into fifteen groups with respect to their foreign news policy percentage indices the classification would appear to be a fine enough one for many purposes and one perhaps as precise as would really have meaning in terms of the general accuracy of the

TABLE 13

NUMBER OF ITEMS OF FOREIGN NEWS IN 18 ISSUES OF 40 AMERICAN MORNING NEWSPAPERS

Newspaper	*No. Items Foreign News*
1. New York Times	946
2. New York Herald-Tribune	604
3. Philadelphia Public Ledger	477
4. New York World	420
5. Los Angeles Times	413
6. Chicago Tribune	406
7. Chicago Herald and Examiner	372
8. Cincinnati Enquirer	369
9. San Francisco Examiner	361
10. Detroit Free Press	357
11. San Francisco Chronicle	354
12. Philadelphia Inquirer	347
13. New York American	327
14. Portland Oregonian	312
15. Los Angeles Examiner	308
16. Baltimore Sun	296
17. St. Louis Globe-Democrat	294
18. Boston Herald	286
19. Washington Herald	281
20. Washington Post	279
21. Atlanta Constitution	272
22. Houston Post-Despatch	269
23. Indianapolis Star	235
24. Cleveland Plain Dealer	222
25. Daily Oklahoman	217
26. Dallas News	213
27. Des Moines Register	210
28. Milwaukee Sentinel	208
29. Rochester Democrat	207
30. Buffalo Courier	204
31. Boston Globe	204
32. Memphis Commercial-Appeal	203
33. Kansas City Times	199
34. Omaha World-Herald	199
35. Kansas City Journal	175
36. Cincinnati Commercial-Tribune	159
37. Louisville Courier-Journal	147
38. St. Paul Pioneer-Press	145
39. Boston Post	142
40. Pittsburgh Post	131

method as a whole. Reference again to Table 4 and the range of percentages there set forth leads to the conclusion that a fifteen-fold classification would require the significance of differences of a little over 0.4 per cent. Assuming that the distribution to be obtained will show a standard deviation not greater than that already observed in the 18-issue sample one can estimate that a sample of 215 issues will be necessary to insure the reliability of a majority of the 0.4 per cent differences.[1] For our nine-months sampling period this amounts of course to practically complete enumeration. On the same basis of comparison a ten-fold grouping would require 72 issues but even this number is too large to be handled in most researches by single individuals. If these somewhat speculative computations can be accepted at least as reasonable approxiations one must conclude that the practicability of small sampling is not indicated for studies of category-ratio differences, at least not for those projects of which the present study is at all representative. More research is necessary however before much real assurance is possible on this point.

SPACE UNITS VS. ITEMS IN MEASURING CONTENT

We have assumed in this study that the best measure of newspaper content is the unit of space; it follows therefore from this premise that the use of the item as the basis unit can be justified only if it gives the same results as would be obtained with the column centimeter. It is worth while to see whether the same results *are* obtained with either unit for if item counting may be substituted for the more expen-

[1] This figure is arrived at by considering that the probable error varies inversely with the square root of the number of cases in the sample. This is approximately true when n' is not less then 25. The estimate is arrived at thus:

$$n' = \frac{(1.3)^2}{(0.4)^2} \times 18 = 213.$$

TABLE 14

AVERAGE LENGTH OF FOREIGN NEWS ITEM IN FORTY AMERICAN NEWSPAPERS

Newspaper	*Average Length of Foreign News Item Std. Col. Cm.*
1. Baltimore Sun	11.8
2. New York Times	11.5
3. Rochester Democrat	11.2
4. Cincinnati Commercial-Tribune	10.9
5. Memphis Commercial-Appeal	10.8
6. Louisville Courier-Journal	10.8
7. Boston Herald	10.5
8. New York Herald-Tribune	10.0
9. Boston Globe	9.5
10. Buffalo Courier	9.4
11. New York World	9.0
12. New York American	8.8
13. St. Louis Globe-Democrat	8.8
14. Los Angeles Times	8.6
15. Philadelphia Inquirer	8.3
16. Dallas News	8.2
17. Chicago Tribune	8.1
18. Pittsburgh Post	7.9
19. Kansas City Journal	7.9
20. Kansas City Times	7.8
21. Washington Post	7.8
22. St. Paul Pioneer-Press	7.8
23. Boston Post	7.8
24. Atlanta Constitution	7.6
25. Washington Herald	7.4
26. Milwaukee Sentinel	7.3
27. Cincinnati Enquirer	7.3
28. Detroit Free Press	7.2
29. Omaha World-Herald	6.8
30. San Francisco Chronicle	6.8
31. Philadelphia Public Ledger	6.7
32. Daily Oklahoman	6.3
33. Des Moines Register	6.2
34. Indianapolis Star	6.2
35. Los Angeles Examiner	6.1
36. Cleveland Plain Dealer	5.8
37. San Francisco Examiner	5.6
38. Portland Oregonian	5.6
39. Houston Post-Dispatch	5.0
40. Chicago Herald and Examiner	4.7

sive space measurement the costs of obtaining a given amount of information would be greatly reduced. In this study we have comparative data for items and space units for one category only, "Foreign news"; the totals in this category arrived at by the two methods of enumeration are set forth in Tables 3 (p. 70) and 13 (p. 100). While it is of course true that the closeness of correspondence between the ranking of newspapers in the space-unit and in the item distributions will depend upon the type of conclusions one wishes to draw, still when Tables 3 and 13 are viewed parallel to each other the disparities between the two appear much larger than would be permissible in the ordinary investigation.[1] One would hardly have been justified, in this study at least, in measuring foreign news space by counting items.

Before the significance of these results for general methodology can be made clear a few words more concerning the theory of the item count are necessary. The difficulty in using this less costly proceeding in place of the laborious measurement of space lies, as has already been noted, in the securing of a definition of the item which will make the average length in each category approximately the same. A cursory examination of a single newspaper will make it evident that no single definition can possibly serve this purpose, for the series of short "items" on the society, financial, and frequently the sporting pages all require special rulings before enumeration as parts of a single item or as items in themselves can be made. These rulings may be made in each case as Johnson made them, i.e. so as to make the average length of item in the category as nearly as possible equal to that of the newspaper as a whole, but since the number of choices are limited even this procedure will not eliminate the disparity between categories as Johnson's own results from

[1] The result obtained from correlating the ranks of given newspapers in the two tables was r (corrected from δ) $= 0.78 \pm 0.10$.

TABLE 15

ASSOCIATED PRESS FOREIGN NEWS AND FOREIGN NEWS FROM OTHER SOURCES IN 18 ISSUES OF 40 AMERICAN NEWSPAPERS

	A. P. Foreign News	*Foreign News not A. P.*	*Total Foreign News*	*Per cent of all Foreign News supplied by A. P.*
	Std. Col. Cm.	*Std. Col. Cm.*	*Std. Col. Cm.*	
1. New York Times	2620	8275	10895	24.1
2. New York Herald-Tribune	2171	3844	6015	36.1
3. New York World	2164	1627	3791	57.1
4. Los Angeles Times ...	2379	1168	3547	67.0
5. Baltimore Sun	2341	1173	3514	66.8
6. Chicago Tribune	1020	2247	3267	45.4
7. Philadelphia Public Ledger	2291	913	3204	71.5
8. Boston Herald	1935	1079	3014	64.3
9. New York American..	1246	1643	2889	43.1
10. Philadelphia Inquirer	2381	489	2870	83.1
11. Cincinnati Enquirer ..	1829	848	2677	68.4
12. St. Louis Globe-Democrat	1829	765	2599	70.5
13. Detroit Free Press....	1870	683	2553	73.4
14. San Francisco Chronicle	1771	636	2407	73.7
15. Rochester Democrat and Chronicle	1860	471	2331	79.8
16. Memphis Commercial-Appeal	1094	1099	2193	50.0
17. Washington Post	2100	81	2181	96.1
18. Washington Herald ..	....	2070	2070	0.0
19. Atlanta Constitution..	1039	1029	2068	50.2
20. San Francisco Examiner	1098	917	2015	54.5
21. Boston Globe	1782	155	1937	92.1
22. Buffalo Courier	1048	861	1909	55.0
23. Los Angeles Examiner	718	1150	1868	38.5
24. Dallas News	1500	252	1752	85.5
25. Chicago Herald and Examiner	828	923	1751	47.2

TABLE 15—*Concluded*

	A. P. Foreign News Std. Col. Cm.	*Foreign News not A. P.* Std. Col. Cm.	*Total Foreign News* Std. Col. Cm.	*Per cent of all Foreign News supplied by A. P.*
26. Cincinnati Commercial-Tribune	1252	482	1734	72.2
27. Portland Oregonian	1351	379	1730	78.1
28. Louisville Courier-Journal	1397	184	1581	88.2
29. Kansas City Times	1019	539	1558	65.4
30. Milwaukee Sentinel	595	922	1517	39.3
31. Indianapolis Star	1318	136	1454	90.5
32. Kansas City Journal	1108	271	1379	80.5
33. Daily Oklahoman	1128	234	1362	82.6
34. Omaha World-Herald	889	469	1358	65.5
35. Houston Post-Despatch	1212	125	1337	91.0
36. Des Moines Register	820	489	1309	62.7
37. Cleveland Plain Dealer	806	477	1283	63.0
38. St. Paul Pioneer-Press	1028	101	1129	91.1
39. Boston Post	722	378	1100	65.6
40. Pittsburgh Post	584	450	1034	56.4

an analysis of the *New York Evening Sun* quite clearly show.[1]

But if the problem of securing definitions of the item which satisfy the criterion just mentioned and which can be adhered to consistently from issue to issue of a given newspaper is at present apparently insoluble, at least for many types of news category, when the aim of the investigation is the comparison of separate newspapers the situation becomes infinitely worse. For this latter case the average length of item must be the same not only as between categories but also as between newspapers or else another com-

[1] These results are given in footnote 1, page 29 of this study. See also Johnson, *op. cit.*, pp. 31, 39, 41 and Smith, R. G., *op. cit.*, pp. 14-21.

plicated correction factor must be applied to bring item totals from different newspapers into line. Since there is less reason why the average length of *foreign news* items should differ from the average for news in general than there is for such categories as " Society news ", " Financial news ", etc. the foreign news category becomes a particularly favorable one for testing out the probable magnitude of these correction factors. The figures for the " average length of foreign news items " presented for the 40 newspapers in Table 14 undoubtedly indicate greater homogeneity among the papers in the average space devoted to an item of foreign news than would be true were the table entries for " All news " instead. But there is a clear-cut necessity for adjustments between newspaper item totals, even on the basis of the foreign news data presented, before comparisons between different newspapers would be possible. These " adjustments " would require in many cases as much labor as would be involved in an original space measurement; the conclusion therefore is that the method of counting items used as a short cut to determining actual or proportional space is invalid for investigations based on most news categories.

CHAPTER VI

Implications of the Study for Future Research

The specific purposes of this study and its claims for accomplishment have all been set forth in the preceding pages but since this has been done in a somewhat piecemeal fashion it may be well to devote a portion of a final chapter to their recapitulation in a more systematic and consecutive form. An attempt will now be made to do this and also to re-orient the study in relation to past and future research in the general field.

Recapitulation of the logic of the present study

In the first chapter the need for reliable techniques for measuring Public Opinion was made manifest and two possible modes of approach to the problem were suggested. The first of these was through the development of attitude scales testing the reactions of individuals to attitude-indicating stimuli presented and controlled by the investigator; the second depended upon observation of the behavior of the individuals in situations not controlled by the investigator and presented only in the course of every-day life. Among situations of the latter type the "What, if any, newspaper shall I read?" situation was, it was urged, one of considerable attitude-revealing importance. The reader in choosing a given journal was held to have indicated a preference for what that particular newspaper offered by way of content, and, since the newspaper depends for its support upon meeting the mass of such preferences the hypothesis was offered that in the long run press content would follow public interest. A

corollary to the hypothesis was the conclusion that a description of what newspapers contain would be at least a rough index of the interests, and in a more attenuated sense, of the *attitudes* of their readers.

The actual testing-out of this hypothesis was recognized to be a difficult task and the probable result of such testing to be uncertain. The procedure in such an attempt at verification evidently involved the correlation of newspaper content with other indices of the attitudes of newspaper readers; but it was obvious that in order to make such correlations possible it was necessary to have developed and ready for use a standardized newspaper-content scale. In addition to its usefulness in Public Opinion study such a scale was held to possess a utility all its own since the objective description of the newspaper which such a technique would afford would permit both readers and publishers for the first time to make detailed and yet reliable comparisons between papers. Intelligent discrimination by newspaper readers between the various bills-of-fare offered by different journals would, it was suggested, be one result of an objective analysis of newspaper content. Another would be a better perspective upon the output of their editorial machinery by publishers themselves, with the consequence of more efficient catering to the interests of the reading public. Even if the attempt to utilize a quantitative newspaper analysis as a Public Opinion index finally proved abortive it was maintained that research in the development of a technique for measuring newspaper content was justified for its value in newspaper study alone.

Upon investigation it was found that even an apparently simple description of the kinds and amounts of news found in the daily paper presented a number of rather difficult methodological problems. Newspapers are by no means homogeneous in the way in which their news is set forth in

print; consequently the choice of a satisfactory unit of measurement which would permit of valid comparisons between papers was no easy task. Another set of difficulties arose in connection with the classification of the various news stories into descriptive categories and there were still other problems to be faced in connection with sampling. Previous quantitative studies of the press had made some incidental efforts to cope with all of these difficulties but with the exception of Tenney and his students no serious effort at actual methodological experimentation had been made. In the light of an analysis of past attempts to exploit the technique a clear need seemed to have developed for a series of research monographs for the primary purpose of refining and validating the details of the methodology itself. Any widespread use of the technique in actual newspaper study appeared to wait upon the completion of at least some of this preliminary developmental work.

The present monograph was designed to form one of the series just referred to. Newspapers and news categories were chosen so as to present a fair testing ground for a quantitative methodology and the study was so organized as to exhibit clearly the various details of this methodology in actual operation. Special attention was paid to two particular phases of the technique; an effort was made to test out the possibility of employing the item as a unit in place of the column centimeter and an investigation was conducted to determine the possibilities of small sampling. The conclusion with respect to the merits of the item unit can be adequately described as simply an unfavorable one, but a summary of the results of the sampling experiment cannot be so easily condensed into a sentence. By an adaptation of error theory for measuring the reliability of the results of analyzing a newspaper sample all necessity for complete enumeration in future studies was eliminated, but on the

question of the probable size of sample which would be required in lieu of such complete enumeration the results showed certain divergences. For the class of study of which the present one is representative small sampling appeared to be feasible where newspaper comparisons were to be in terms of the actual column space devoted to news of a single category. Where category *ratios* were concerned, however, more newspapers would apparently have to be measured in order to secure the same reliability of results. In either case there appeared to be still some possibilities for the single investigator in addition to the many open for cooperative study and it was felt that this conclusion should justify and even encourage further experimentation and research.

SUGGESTIONS FOR FUTURE RESEARCH

At the conclusion of this résumé of the logical outline upon which the present study in method has been conducted the question naturally arises as to the " next steps " to be taken in research. In any scientific exploration in a new field one has to feel one's way from point to point rather than follow a program laid down completely in advance. Any attempt, therefore, to do more than point out the lines of investigation which at this stage of development appear to be most fruitful would involve one in unjustifiable speculation. A number of varied research projects seem immediately practical, however, and a brief setting forth of some of these may be of value in giving further perspective on and stimulating further interest in this field of research. No claim is made that the list of suggestions which follows is in any sense a complete one; it serves merely to illustrate a few out of the large number of possible future trends in the development and utilization of a technique for quantitative study of the press.

The most immediate need is for further experimentation

with *methodology* in studies so organized as to bear upon concrete methodological problems. We may first list a few such studies which appear to be within the scope of the single investigator:

(1) A study testing out the relative efficiency of (1) clipping and weighing items and (2) of actual measurement with a ruler. This study would build upon the preliminary work of Glenn Johnson[1] and provide a real test of his tentative conclusion in favor of the clipping and weighing method.

(2) A study in sampling similar to this one but dealing with a larger number of categories and a smaller number of newspapers. It is important to know whether the day-to-day variability in the foreign news category is or is not fairly typical of that which would be found in other categories employed in the ordinary run of research.

(3) A historical study with comparable samples taken for the same newspaper at one year intervals, in order to throw light on the homogeneity of a newspaper time-series universe.

(4) A comparative study of the differences in results which would follow from (1) neglecting headlines entirely, (2) including headlines at the actual space they occupy, and (3) applying a weighting system based upon a consensus of the opinions of journalists concerning the relative stimulus effect of various headline policies.

(5) A two or three category study of two newspapers with a 50 per cent sample covering a year period (approximately 150 week-day issues of each paper). The purpose of the study would be to obtain some more definite idea concerning the shape of the frequency curve for day-to-day variability. With this information one could apply error theory in testing the adequacy of sampling much more confidently than is now the case.

[1] *News Variability in an American Journal*, Columbia University Master's Essay, 1916.

Many other methodological researches, and they are the more important ones, would require a staff of enumerators and statistical apparatus found only in a well equipped research laboratory. Some studies of this type are:

(6) A really adequate investigation into the possibility of standardizing a set of classification categories. Such a study would involve time and expense since the enumerators would require a good deal of preliminary training and the actual tests when finally made would involve the classification and measurement of a very large number of newspaper issues. Completion of such a piece of research is, however, a prerequisite for any large scale use of the method.

(7) A really adequate study of sampling possibilities. A research organization which subjected, say ten carefully selected newspapers to daily quantitative analysis over a period of two years would have enough data available on which to lay plans and estimate costs for almost any other project which might be contemplated. One would be able to predict the approximate size of sample necessary in order adequately to represent almost any universe.

(8) The data just described above would, if properly manipulated, be sufficient to settle the question of the most satisfactory unit, and indeed most of the other methodological problems, if only slight additions were made to the original enumeration procedure. These problems could be attacked piecemeal only with a great deal larger total amount of labor.

In addition to studies in method one might list a few examples where the technique of quantitative analysis might be employed in the fields of journalism and applied social science. These studies in general presume a somewhat greater development of the methodology than now obtains; but some results of significance could in most cases be arrived at with the technical equipment now available:

(9) A comparative study of the amounts and proportions of various kinds of news found in a selected group of European and American dailies.

(10) A study of the amounts and relative proportions of space devoted to foreign news (or to sporting, financial, or society news) by a selected group of newspapers in the years 1890, 1900, 1910, 1920, and 1930.

(11) A comparison of the amounts and proportions of space devoted to various *news* categories with those devoted to similar subject categories in the *editorial* columns.

(12) A comparison of the amounts printed in a selected list of newspapers of political campaign news emanating from each of the party headquarters (Republican, Democratic, and Socialist) during a national election campaign. A correlation of these results could also be made with the avowed political affiliations of the newspapers studied.

We can finally conclude this list of research suggestions with four examples of studies designed to test out the utility of quantitative newspaper study as a means of measuring certain phases of the Public Mind. No sweeping or general validation of the newspaper-content Public Opinion index is sought for in these studies; the procedure in each case is one of correlating the newspaper content in a specific category with a specific interest or attitude of the newspaper-reading public. An attack on a more general front appears at this stage to be impractical.

(13) A correlation of (1) the amounts of political news in various newspapers with (2) the proportion of the citizens living in the newspaper-circulation areas who actually vote in presidential elections.

(14) A comparison of (1) the space devoted to crime news in the newspapers of different cities with (2) the actual amounts of crime in those cities as given by such criminal statistics as are available.

(15) A comparison of (1) the number of radio sets per capita in various cities (as shown by the United States Census of 1930) with (2) the amounts and proportions of space devoted to radio programs and other radio news by the newspapers published in those cities.

(16) A comparison between (1) the amounts of news relating to the League of Nations (favorable or unfavorable to that organization) printed in a selected list of newspapers and (2) the scores of a sampled group of the readers of these same newspapers on one of the standard tests for nationalist and internationalist attitudes.

It is to be hoped that projects of the types just illustrated will be undertaken in the near future. The real fruitfulness of the method of quantitative newspaper analysis can be determined only in actual practice.

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APPENDIX III

Sample of Data Sheet Used in Enumeration

Atlanta Constitution, April 20, 1927, 20 pages

Page	News Col cm	Foreign News A.P.	For. News A.P. Items	Foreign News S.C.	For. News S.C. Items	
1	234			20	1	
2	203	15	1	17	*	
3	61					
4	202	16	2			
17	370					
18	41					
19						
20	166					
	2959	31	3	43	3	

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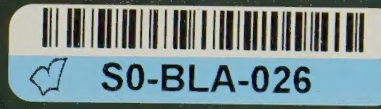
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